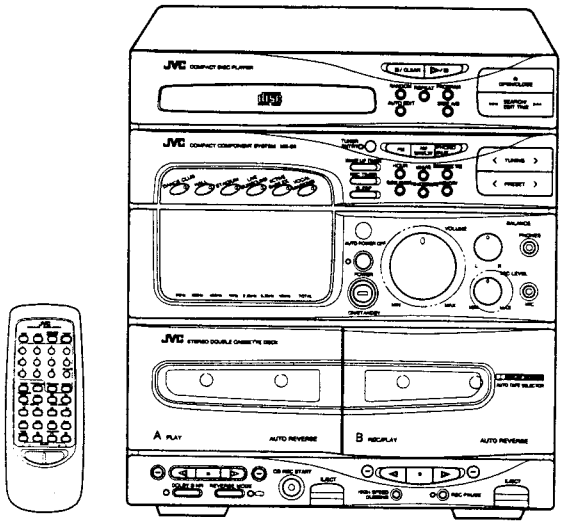
JVC

SERVICE MANUAL

CA-MXS3BK



COMPACT disc DIGITAL AUDIO

MC-Service

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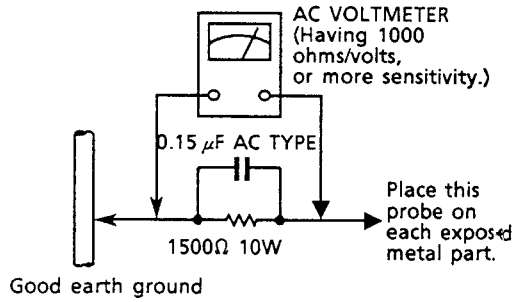
No. 20373
Dec. 1992

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. CAUTION : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

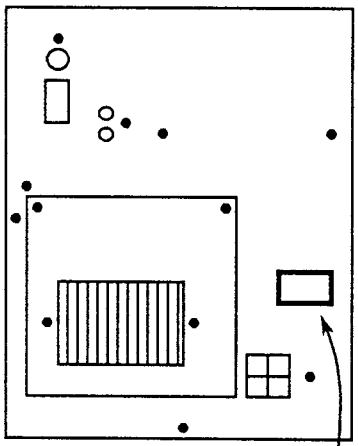
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

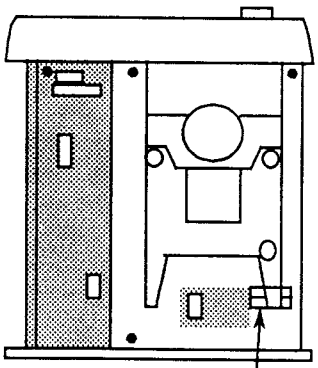
VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS





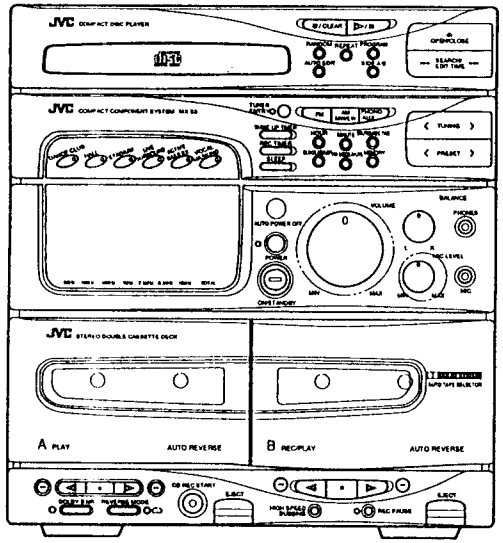
WARNING LABEL
(Except for the U. S. A.)

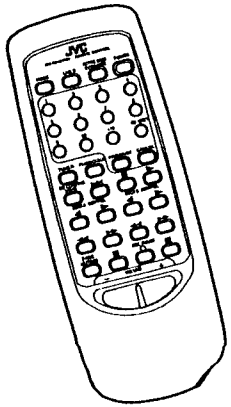
DANGER: Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	VARNING: Osynlig laserstråling när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen. (s)
ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)	VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

CLASS 1
LASER PRODUCT

CLASSIFICATION LABEL
(Except for the U. S. A. and Canada)

Control Panel and Remote—Illustrations
Bedienfeld und Fernbedienung—Abbildungen
Panneau des commandes et télécommande—Illustrations
Bedieningspaneel en afstandsbediening — Afbeeldingen
Ilustraciones del panel de control y del controlador remoto
Pannello comandi e telecomando—Illustrazioni





English
English
Deutsch
Français
Nederlands
Español
Italiano

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Features

Great Sound

Here are some of the things that make your CA-MXS3BK powerful and easy to use.

- ❑ To get such **great sound** from such a compact package the CA-MXS3BK has pre-programmed sound effects like **DANCE CLUB, HALL, STADIUM**, and **LIVE SURROUND** so you don't have to be a sound engineer to get great effects.

Easy Operation

COMPU PLAY

- ❑ The controls and operations have been redesigned to make them very easy to use so you can spend your time listening to music.
  - With the One Touch Operation feature of JVC's new **COMPUPLAY** you can turn on the CA-MXS3BK and start the radio, the tape deck, or the CD player with a single touch.
  - Four timers, **WAKE UP TIMER, SLEEP, AUTO POWER OFF**, and **REC TIMER** are extremely easy to set so you can really use them.
  - The **Display area** is large and clear. It's organized so you can tell at a glance what's happening because functions light up as you use them, and blink to tell you they are ready.
  - **Auto Edit** figures out how to arrange CD tracks on a tape. When you are recording a tape from a CD, the selections aren't cut off if the tape ends before the selection does.

Sing Along

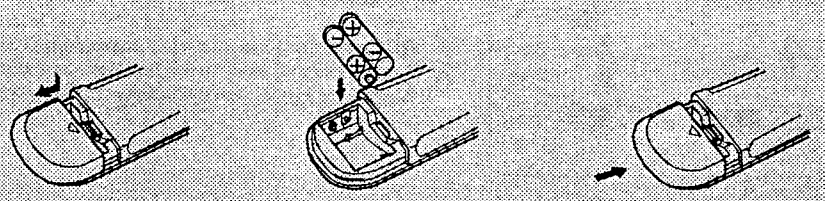
- ❑ Now use conventional tapes and CDs for **singing along** with the voice canceller system. With an optional microphone, you can replace the lead singer's voice on your favourite songs with your own.

IMPORTANT CAUTIONS

1. **Installation of the Unit**
   - Select a place which is level, dry and neither too hot nor too cold (between 5°C and 35°C).
   - Leave sufficient distance between the Unit and your TV.
   - Do not use the Unit in a place subject to vibrations.
2. **Power cord**
   - Do not handle the power cord with wet hands!
   - When unplugging from the wall outlet, always pull the plug, not the power cord.
3. **Malfunctions, etc.**
   - There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
   - Do not insert any metallic object into the Unit.

How to Put Batteries in the Remote Control

Match the polarity (+ and -) on the batteries with the + and - markings on the battery compartment.



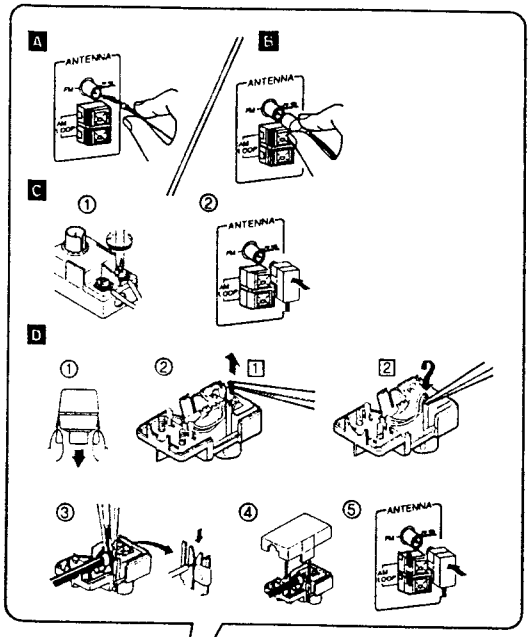
CAUTION: Observe Proper Handling of Batteries.
To avoid battery leakage or explosion:
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.

(No. 20373) 1-5

Connection Diagrams and Instructions

Connecting the AM (MW/LW) and FM Antennas

FM Antenna Connections



For Germany

A Using the Supplied Wire Antenna

The FM wire antenna provided can be connected to a FM 75-ohm COAXIAL as a temporary measure.

B Using the Coaxial Type Connector (Not Supplied)

A 75-ohm antenna with coaxial type connector (DIN 45332) should be connected to the FM 75-ohm COAXIAL terminal.

For Other Continental Europe

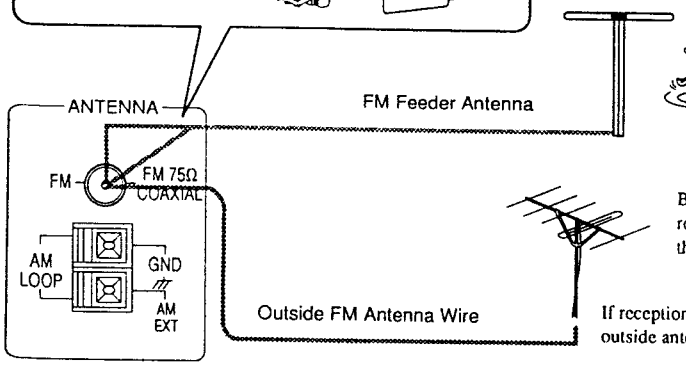
C Using the Supplied Feeder Antenna

① Attach the feeder antenna to the FM connector as shown in the figure.
② Connect the FM connector to the FM 75-ohm COAXIAL terminal.

D Using FM 75-ohm Antenna Cable (Not Supplied)

① Open the claws at both sides and remove the cover.
② Move the conductor wire from 1 to 2 using tweezers or similar tool (only when using coaxial cable).
③ Fix the coaxial cable and its core.
④ Put on the cover.
⑤ Connect the FM connector on the FM 75-ohm COAXIAL terminal.

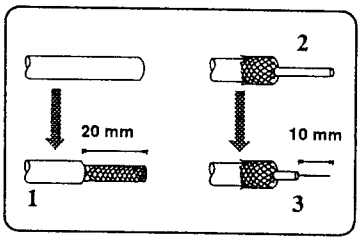
Note:
Make sure the antenna conductor do not touch any other terminals, connecting cords and power cord on the system.
This could cause poor reception.



For Germany
Extend the supplied wire antenna horizontally.
For other continental Europe
Unfold the loops of the supplied dipole FM feeder antenna and extend them as shown.
Fasten them up in the position which gives you the best FM reception.

Before attaching a 75 ohm coaxial lead (the kind of round wire going to an outside antenna), disconnect the supplied dipole indoor antenna.

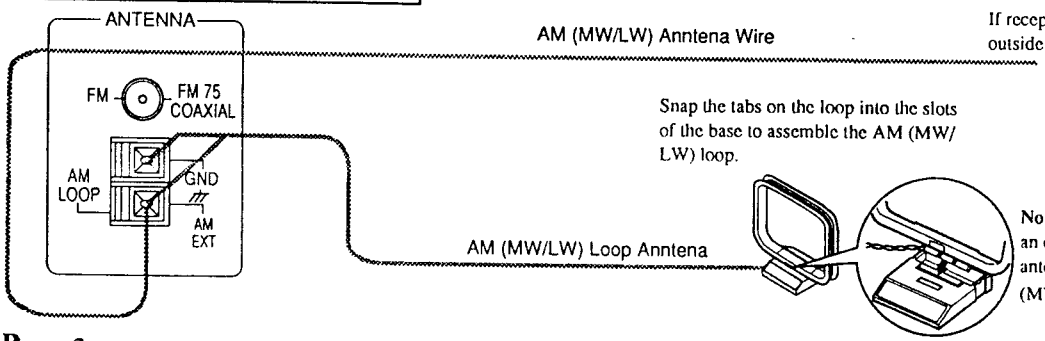
If reception is poor, connect the outside antenna.



How to Strip the 75-ohm Coaxial Cable

1. Strip back the outside covering of the 75 ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied Antenna Adaptor, as shown in the diagram above.

AM (MW/LW) Antenna Connections



If reception is poor, connect the outside antenna.

Snap the tabs on the loop into the slots of the base to assemble the AM (MW/LW) loop.

Note: Even when connecting an outside AM (MW/LW) antenna, keep the indoor AM (MW/LW) loop connected.

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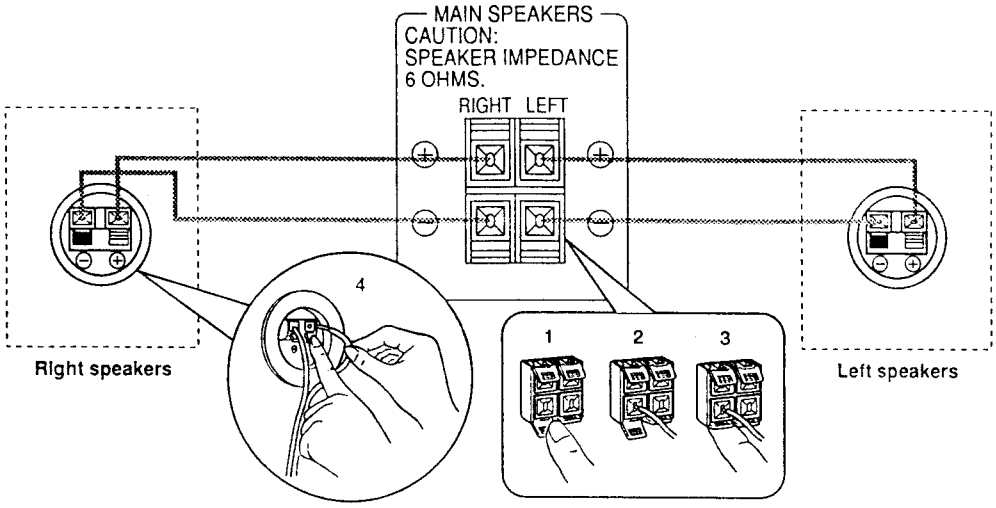
Connecting the Speakers



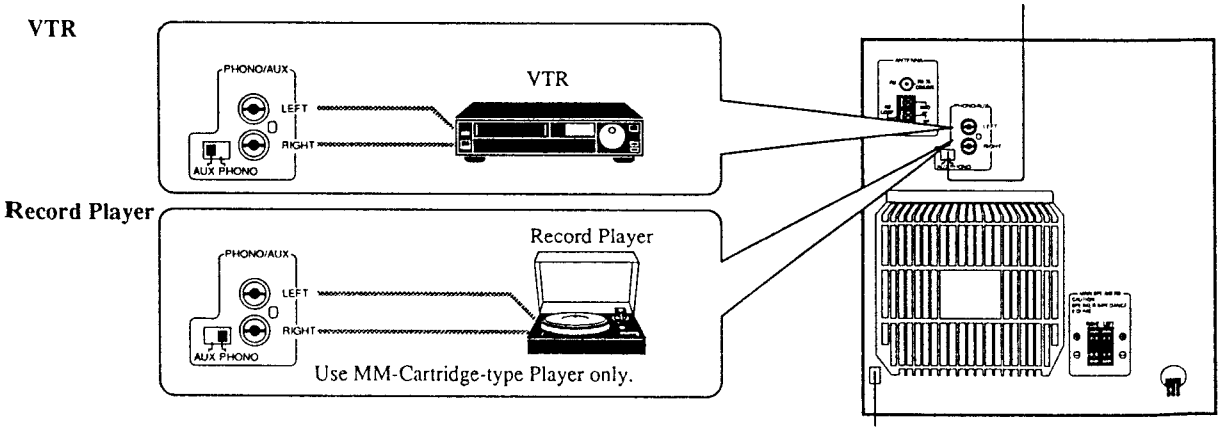
For each speaker connect one end of the speaker wire to the speaker terminals on the back of the CA-MXS3BK and one end to the speaker. On the back panel:

1. Open each terminal.
2. Insert the end of the speaker wire as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker wires firmly in place.
4. Connect the red (+) and black (-) terminals of the right side speaker to the red (+) and black (-) terminals marked RIGHT on the CA-MXS3BK.
   Connect the red (+) and black (-) terminals of the left side speaker to the red (+) and black (-) terminals marked LEFT on the CA-MXS3BK.

IMPORTANT: Match the polarity of the speaker terminals with the polarity of the terminals on the CA-MXS3BK, red (+) to red (+) and black (-) to black (-). Check your speakers for correct impedance: Main speakers 6 ohms only, surround speakers 16 ohms only.

Connecting Auxiliary Equipment

Set this selector to either PHONO or AUX. For a Record Player, set to PHONO; for others, set to AUX.
IMPORTANT
Make sure that the power is turned off before setting this selector.



When recording an AM (LW/MW) broadcasting program, beat sounds may be heard and recorded. Set the BEAT CUT selector to either 1 or 2, so that beat sounds will not be heard nor recorded.

MC-Service

Read Me First

How to get the most for your money by using this manual.

The Engineers at JVC have made the CA-MXS3BK very easy to use, and if you are experienced using audio equipment, you can figure out how to use some of the CA-MXS3BK controls by yourself. However, we have built some new features into this model, which you can learn about easily from the manual.

If you are a new user or just want a review, this manual explains how to use the CA-MXS3BK and take advantage of its features for playing and recording music, as well as other sounds. One way to use this manual is to read it through now and refer back to it when you need to refresh your skills for some special operation. Of course you can just look up the topics, such as recording a CD, that you want to do, but remember that you may need to refer to other parts of the manual for some of the instruction: for instance, in explaining how to record a CD, we assume you already know how to load a CD. That's why we recommend that you read the manual through once before starting. We've made it short, and easy to follow.

However before you proceed, please read the Cautions on page 2 and the set-up directions.

IMPORTANT! Special features for a special Manual.

How This Manual Is Organized

This is a special manual, designed to accommodate several languages. To keep the size from becoming too great, yet still give you a top quality instruction manual, we have incorporated some special features:

- A fold-out page to look at while you read the instructions shows the front controls of the CA-MXS3BK. Some procedures have the illustrations of which control to use right with them, and for some you will need to look at the fold-out for the illustration.
- Basic information that is the same for many different functions is grouped in one place, and not repeated in each procedure. For instance, in the section on playing a CD, we do not repeat the information about setting the volume and the sound conditioning, which are talked about in the Common Operations section.
- Names of buttons, controls and function names that light up on the display panel are written in all Capital letters like this: POWER.
- When we are talking about the Function, rather than the BUTTON or DISPLAY, then we just capitalize the first letter of the words.
- The ☞ alerts you to important information or how to solve special problems that may occur when using the CA-MXS3BK.

The column on the left of the page is a special place to make it easier to find just what you want to know about, with little headlines announcing what each part of the page is about. Sometimes illustrations and helpful hints are placed here also.

Basically we use three kinds of information to help you understand and use the CA-MXS3BK:

- ❑ Information about what you can do (such as record a CD or preset a radio station) and how the Unit is designed to make doing this activity easy.
- ❑ Procedures, usually numbered in the order you do the steps, to guide you in exactly what to do to accomplish something, such as tune a radio station or record a tape.
- ❑ Information you need to know to make decisions about which functions of the CA-MXS3BK to use for particular tasks (such as when to use Dolby NR to improve tape sound) and special hints to make your work go smoothly, like reminding you to set the sound effects before starting the CD to tape recording, since they cannot be changed once recording begins without starting completely over.

The manual has a table of contents to help you easily look up what you want to know.

We've enjoyed making this manual for you, and hope you will use it to enjoy the sound and many features built into your CA-MXS3BK.

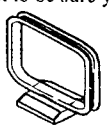
Getting Started Right

Unpacking

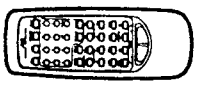
Inside the packing box....

Of course you have already opened your CA-MXS3BK carton, since you are reading this manual. Although the Unit is quite sturdy, you may want to save the packing to re-pack your CA-MXS3BK in case you are moving it some distance.

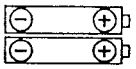
Check to be sure you have all of the following things, which are supplied with the CA-MXS3BK:



AM (MW/LW) Antenna



Remote Control



Batteries

FM Wire Antenna
(only for Germany)

FM Feeder Antenna
(except for Germany)

Antenna Adaptor
(except for Germany)

If any are missing, contact your dealer immediately.

Location

Where can you put it?

You can place the CA-MXS3BK in many different kinds of locations to suit your needs; just observe the cautions on page 2: keep away from moisture and heat; leave some space between the Unit and its surroundings, more than 1 cm at the sides of the console and 10 cm at the back.

Set Up

Very little assembly required

You will need to do the following four things to get your CA-MXS3BK ready to use.

1. Connect the Antenna(s).
2. Connect the Speakers.
3. Put Batteries (included) in the Remote.
4. Connect other sound sources (VTR, Record Player) if used.

1. Connect the Antenna(s)

Please look at the diagrams on pages 3 and 4 to do these things.

Follow the diagrams on page 3. Here's what you need to know:

- ❑ For AM (MW/LW) reception you must connect the supplied loop antenna. If reception is poor, connect the outside antenna, but leave the loop antenna in place—the AM (MW/LW) will not work correctly without it.
- ❑ For FM reception, connect the supplied wire as shown. However, if you use an outdoor antenna, disconnect the indoor FM antenna first.
- ❑ To avoid noise, keep antennas away from metalic parts of the CA-MXS3BK, connecting cords and the AC power cord.

2. Connect the Speakers

Basically, you look at the diagrams on page 4 and follow the pictured instructions.

3. Put Batteries in the Remote

Pay close attention to getting the batteries in correctly—we've made it very easy, just match the + and - marks on the batteries with the + and - markings on the Remote. See page 2 for instructions

> **CAUTION:** Handle batteries with care. See page 2 for proper use of batteries.

4. Connect Other Sound Sources, such as VTR or Record Player (Optional)

You can play the sound portion of a TV program or video tape through your CA-MXS3BK's sound system, often improving it greatly. A VTR or Record Player can also be hooked up to play through the CA-MXS3BK. Just follow the diagram on page 4. In order to play a connected source through the CA-MXS3BK, you have to set the PHONO/AUX selector on the rear panel in place

Now you can plug the AC power cord into the wall socket, and your CA-MXS3BK is at your command!

> **CAUTION:** First make all connections before pluging the Unit into any AC power outlet.

Read on and find out how to use the many features built into your Unit.....

MC-Service

Common Operations

Here are the things that apply to all the functions of your CA-MXS3BK. If something in a procedure is unclear to you, check back here.

COMPUPLAY

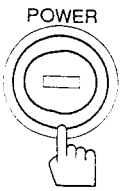
The Magic of

COMPUPLAY

COMPUPLAY is JVC's new feature that lets you control the most used functions of the CA-MXS3BK with a single touch. This One Touch Operation starts playing a CD, turns on the radio, plays a tape, etc. with a single press of the play button for that function. What One Touch Operation does for you is to turn the power on, then start the function you have called for. If the Unit is not ready, such as no CD or tape in place, the Unit still comes on and then pauses so you can put in a CD or tape.
How One Touch Operation works in each case is explained in the section about that function.

Turning the CA-MXS3BK On

Power on.....



Press POWER; the stand-by indicator on POWER goes out.

- ❑ The CA-MXS3BK comes on ready to do whatever it was doing when the power was last shut off. So if the last thing you were doing was listening to a tape in deck B, you now are ready to listen to a tape again in deck B, or you can change to another source.
- ❑ If you were listening to the radio last, the radio comes on playing that last station.

Be sure to read the caution at the end of this section concerning sound levels, and possible damage to your hearing or the equipment.

Turning the CA-MXS3BK Off

.....Power Off.

You probably guessed this one: Just press POWER. The stand-by indicator on POWER lights up and the display blanks, except for the clock display.

- ❑ A small amount of power (13 watts) is consumed even in the STANDBY mode. To switch the power off completely, unplug the power cord from the AC outlet.

Controlling the Sound

Making it sound the way *You* want it to:

The same set of buttons and knobs control the sound, no matter which function is producing it. Here we will briefly explain how these controls work, and how you can use them to increase your enjoyment of the music.

Volume Control

•Volume

Rotate clockwise to increase loudness, counter-clockwise to reduce loudness. Be sure to read the caution at the end of this section about high sound levels damaging your hearing or your equipment.

Speaker Balance Control

If the sounds you hear from the right and left speakers are not well-balanced, you can adjust the speaker output balance with the BALANCE control.

Special Effects Controls

•DANCE CLUB
•HALL
•STADIUM
•LIVE SURROUND
•ACTIVE BASS EX. (extension)
•VOCAL MASKING

These six buttons on the main Unit, each with a LED that lights up to tell you when it's on, are located just above the display window.
These buttons, singly and in combination, give you real control of the way your music sounds. We can give you some idea of how each one affects the music, but the only way to really tell is try them yourself. Depending on the way each recording is made, or the quality of the radio signal, they will affect different pieces differently. Feel free to experiment!

Things to remember about using special effects:

- ❑ Experiment with and set your special effects *before* you start recording with CD Direct or Auto Edit, because once recording starts, the special effects cannot be changed without stopping recording, and often having to start over. If you need different sound effects for each selection, use the standard recording features described on page 14, rather than Auto Edit or CD Direct.
- ❑ When DANCE CLUB, HALL, or STADIUM is pressed, LIVE SURROUND also comes on. If you don't want to use it, just press LIVE SURROUND, and when the LED goes off, so does LIVE SURROUND.
- ❑ Each of the special effects changes the sound in a different way by changing which parts of the sound are increased or reduced. To see how each part of the sound will be changed, watch the display just as you press an effect button when music is playing. You will see a graphical display showing the effect's pattern for just a short time before the effect starts.

MC-Service

- **DANCE CLUB**—Increases resonance and bass
- **HALL**—Adds depth and brilliance to the sound, like in a concert hall
- **STADIUM**—Adds clarity and spreads the sound, like the sound in an outdoor stadium
- **LIVE SURROUND**—With this function the sound coming from only two speakers approaches the quality of sound from four speakers.
- **ACTIVE BASS EX.**—The richness and fullness of the sound is maintained regardless of how high or low you set the VOLUME control.
- **VOCAL MASKING**–Cancels the voice part of a song so you can broadcast your own voice through the Microphone in place of the lead singer. Now it sounds as if you are singing directly with the band. See page 20 for a more complete discussion of this new function.

☞ On the Remote, you can't find buttons for DANCE CLUB, HALL and STADIUM. By pressing MODE on the Remote, you can get these three special effects sequentially.

Using the Tuner Entry Function

With Tuner Entry on, the Unit automatically shifts to the most recently played radio station when a tape or CD comes to an end.

- ❑ Switch between Tuner Entry on and Tuner Entry off by pressing TUNER ENTRY. The LED next to it lights up when Tuner Entry is on and is off when Tuner Entry is off.
- ❑ In two situations even if Tuner Entry is on, it will not take effect:
  - When you intentionally stop the CD or tape deck by pressing ■/CLEAR on the CD player or Stop ■ on the tape deck.
  - When any timer activated CD or tape stops playing.

Listening with Headphones

A standard pair of headphones can be connected at the PHONES jack on the front panel. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

The Display and The LEDs

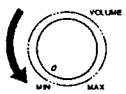
The Display and the LEDs—Two Very Useful Hints

- ❑ The Display Panel tells you many useful things about what your Unit is doing. Watch it as you give instructions to the CA-MXS3BK by pressing buttons.
- ❑ Most of the controls have a small light, called an LED right next to or even right on the function button or knob itself. The light comes on when the function is on, and goes out when it is not in use.

What's Next?

Now that you know how to control the sound, go on to learn how to enjoy each sound source: Tape, CD, Radio, Connected Equipment, and Microphone.

Caution: Too LOUD!



CAUTION: Always set the VOLUME control to MIN before turning on a connected source such as a VTR or Record Player, or starting any other of the sound sources such as the radio, tape, or CD player. Otherwise, if the VOLUME control is turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Listening to the Radio

The controls for the radio are located in the Tuner/Amplifier section. With these controls you can browse through all the stations or use the preset function to go immediately to a particular station.

- To record from the radio, see "Recording any Sound Source to Tape," page 15.
- To set the timer to turn on the radio at a certain time, see "How to Use the Timers and Set the Clock," page 17.

First we'll explain how to tune in stations, and then how to preset the ones you listen to often.

One Touch Radio

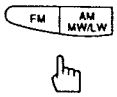
Radio

Just press AM (MW/LW) to turn on the Unit and start playing the most recent AM (MW/LW) station tuned in, or press FM to start the most recent FM station playing. If you press TUNER on the Remote instead, you can start playing the most recent station tuned in.

- ❑ You can switch from any other sound source to the radio by pressing either AM (MW/LW) or FM.

Tuning in a Station

Three ways to tune in a station



Press AM (MW/LW) or FM to turn on the radio. The display shows the frequency of the station tuned to.

You have 3 ways to select a station:

1. Press and release TUNING < or > to move from station to station until you find the one you want.

OR

2. Hold down TUNING < or >, and the display cycles through all the stations one after the other. Release the button when you see the one you want.

OR

3. Press once and release PRESET > to go to the next preset station, or hold PRESET < to cycle through the preset stations: release the button when the preset station you want shows on the display.

You can also use the Remote to tune in stations and preset channels:

- To tune preselected stations with the Remote:

1. Press TUNER so that you can receive the most recent station tuned in.
2. Select the station by entering the preset channel number in the 10 Key pad of the Remote. The display shows the new channel number and frequency.

Presetting Stations

How to preset AM (MW/LW) and FM radio stations

Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 Key pad of the Remote or the CA-MXS3BK itself using PRESET < or > to call up the channel number.

- ❑ You can preset 40 AM (MW/LW) and FM stations at random.
- ❑ Preset stations may be erased when power is cut off to the Unit, as when it is unpluged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the following procedure.

To preset radio stations:

MEMORY

1. Tune in the station you want to set.
2. Press MEMORY.
   - ❑ On the display, MEMORY will blink for 8 seconds. During these 8 seconds while MEMORY is blinking you can assign a channel number to the station and enter it into the memory.
3. Select a channel number by pressing PRESET < or > until you find the channel number you want.
4. Press MEMORY and the station will be assigned to the channel number showing on the display.

Receiving in Stereo or Mono

When an FM strereo broadcast is hard to receive or noisy:

- ❑ Press FM MODE/MUTE so that reception improves although you loose the stereo effect. In this state, you will hear noise while tuning into stations.
- ❑ To restore stereo effect, press FM MODE/MUTE again so that "AUTO" appears on the display. In this state, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. Furthermore, in this state, you won't hear noise while tuning into stations.

FM MODE/MUTE

Listening to a Compact Disc

COMPU PLAY
Compact Disc Play

The quickest way to start a CD is with the One Touch Operation:
- ❑ Press Play/Pause ▷/II on the CD player or Play ► for CD control on the Remote.
- ❑ If a CD is already loaded, the Unit automatically turns on and starts to play it from track 1.
- ❑ If no CD is loaded, the CD tray opens, and you can put in a CD, printed side up, press Play/Pause ▷/II and the tray closes and the CD starts playing.

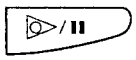
Basics of Using the CD Player

Here are the basic things you need to know to play a CD and locate the different selections on it. Each selection is called a track, so when we are talking about locating a track, we are also talking about how you find a certain song or performance.

To Load, Play, and Stop a CD

How to use the CD player: from the most basic to advanced

1. Press ▲ OPEN /CLOSE.
2. Put a CD, printed side up, into the tray.
3. Press ▲ OPEN/CLOSE again to close the tray.
4. If you want to listen to the CD now, press ▷/II and adjust the volume.
   - ❑ The display shows the track being played and the length of time since it started.
5. To stop the CD, press ■/CLEAR. When you start again, the CD begins with track 1.
6. To pause the play, press ▷/II while the CD is playing so when you press ▷/II again the CD starts just where you left off.
7. To remove a CD, press ▲ OPEN/CLOSE, take the CD out, and press ▲ OPEN/CLOSE again to close the tray. Keep the tray closed except during loading and unloading to protect the mechanism from dust and damage.



PLAY/PAUSE

How to Find the Track or a Particular Point You Want

CD
Find track

- ❑ Each time you press briefly and release SEARCH /EDIT TIME |◄◄ or ►►| the track changes by one.
  - Press and release SEARCH/EDIT TIME ►►| to go ahead one track at a time.
  - Press and release SEARCH /EDIT TIME |◄◄ to go back one track at a time.
- ❑ Holding down SEARCH/EDIT TIME |◄◄ or ►►| will fast forward or fast reverse the CD so you can quickly find the particular part of a track you want to listen to.
- ❑ Although fast forward and fast reverse are not usable when the CD is off, the track change function is available, so you can select the track you want to start playing when you start the CD. The track number is shown on the display.

Locating a Track with the Remote

Using the Remote to find a track

Using the 10 key pad on the Remote allows you to go directly to the beginning of any track.

1. Press CD 10 KEY.
2. Enter the number of the track you want using the 10 key pad.
   - Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.
3. As long as a CD is loaded and the Unit is on, as soon as you enter the number of the track you want, it will start to play.

Programming the Playing Order of the Tracks

With programming, you can play back tracks in any order

In addition to the high quality sound which makes the CD such a good way to listen to music, you can change the order in which the tracks play.

Random Play

RANDOM

Before starting a CD, press RANDOM on the CD player.
- ❑ The tracks will play in no special order.
- ❑ When all of the tracks have been played, the CD shuts off.
- ❑ Press REPEAT before or during random play to instruct the CA-MXS3BK to continue with a different random track selection after the last selection is played.
- ❑ To cancel random play, press ■/CLEAR.

Program with the Remote

Programmed Play

You can arrange the tracks to play in any order you like with the Program function. The Remote is very useful for this because you can select tracks by number with the key pad. See "How to Use the Remote Control," page 22, if you need more information about its use. You can also use the main Unit.

How to program: just 5 easy steps

To program the CD track order from the Remote, follow this procedure:

1. Press PROGRAM.
2. Press CD 10KEY.
3. Press the number of the first track you want to hear, then the number of the second track, and so on until you have entered all the track numbers you want to play.
   - ❑ Refer to the section "How to use the Remote Control" on page 22 if you have questions about how to enter numbers above 10.
   - ❑ Your program can include up to 32 tracks, and you can repeat tracks if you wish.
4. Press Play/Pause ▷/II to start the program—the first track you programmed will start to play, followed by the next one you entered, until all the selected tracks are played.
5. To stop the CD during Programmed Play, Press Stop □. To cancel the program, press PROGRAM on the Remote or ■/CLEAR on the main Unit.

Programming from the front panel

To program the CD from the main Unit, follow this procedure

1. Press PROGRAM.
2. Press SEARCH/EDIT TIME ⏮ or ⏭ to locate the track you want to start with.
3. Press PROGRAM to store the selected track.
4. Repeat steps 2 and 3 until you have entered all the tracks you want to program.
5. Press Play/Pause ▷/II and the Unit will begin playing the tracks in the order you programmed them.

Programming Hints

A Few Hints to Make Programming Easier

- ❑ If you want to change the number of a track you just entered, press CANCEL on the Remote, and enter another number. (When the display shows the total program time, press CANCEL twice to remove the last selection entered.)
- ❑ If you want to change the entire program, press ■/CLEAR on the main Unit, and then you can start over.
- ❑ To view the order of the tracks in your program when it's playing, press Stop □, then press CD CONTROL ⏮ or ⏭ on the Remote to display the order of the tracks. Each time you press CD CONTROL ⏭ the next selection in your program is displayed. (Press CD CONTROL ⏮ for the previous selections.)
- ❑ To add a track to your program, follow the steps listed on the previous page in "To program the CD track order from the Remote." Any tracks you add will appear at the end of the current program.

Repeat a selection or the whole CD

Repeating a Selection or the Entire Disc

- ❑ You can have either the program or the individual selection currently playing repeat as many times as you like by pressing REPEAT. Each time you press REPEAT, it cycles from OFF, which turns the REPEAT indication out on the display, to REPEAT which will repeat all tracks in order or according to the program you have set, and REPEAT 1 which will repeat the currently playing track. To cancel Repeat, just press REPEAT until the REPEAT indication on the display goes off.

Listening to a Tape

Listen to a tape: How to use your tape deck

The tape deck allows you to play, record and dub audio tapes.

- ❑ To record or dub, see Recording page 14.
- ❑ With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.
- ❑ To play a tape and learn about the many easy to use features of the dual tape deck built into your CA-MXS3BK, read on here!

Playing Back a Tape

You can play a tape from either deck A or deck B; but remember: only deck B can record.

COMPU PLAY

One Touch Play

By pressing either Play Forward ⊳ / Play Reverse ⊲ (or Play Forward ► / Play Reverse ◄ for deck A and B control on the Remote) the power will come on, and if a tape is in the deck, it will start to play. If no tape is loaded, the Unit will come on and wait for further instructions.

Playback Procedure

Regular Play

When power is already on, you can use this basic procedure:

EJECT

1. Press EJECT, which is located just to the right of the deck, for the deck you want to use.
2. When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-MXS3BK.
   - ❑ If the cassette carrier does not open, turn the Unit off, then back on again and press EJECT.
3. Close the carrier gently.
4. Turn the volume down. (See the Caution on page 8 about possible damage from setting the volume too high.)
5. Press Play Forward ⊳ to play the front side, or Play Reverse ⊲ to play the reverse side.
6. To stop playing, press Stop ■. To remove the tape, press EJECT.

Fast Left and Fast Right

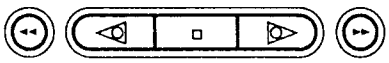
- ❑ While the tape is stopped, press Fast Left ◄◄ and the tape will wind rapidly onto the left side of the cassette without playing.
- ❑ While the tape is stopped, press Fast Right ►► and the tape will wind rapidly onto the right side of the cassette without playing.

Finding the place you want: Music Scan

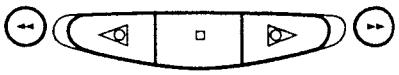
Music Scan

To use the Scan function, you need to understand one basic idea, which might just make you a Master of Tape Control!

- ❑ Look at the Play Forward and Play Reverse Controls:



Deck A



Deck B

- ❑ When the power is on, the glowing LED shows the direction the tape was last moving. When the LED is blinking slowly, the tape is playing in the direction of the arrow. Now comes the tricky part: when the LED is blinking rapidly, the tape can be moving either the direction the arrow points, or the opposite direction, ***depending on whether you pushed*** **Fast Right ►► *or* Fast Left ◄◄**. The tape will be going at high speed in the direction of the arrows of the button you pushed. The direction of the arrow with the rapidly blinking LED shows which way the tape will start playing when the fast search is done. Put in a tape and try it out.
- ❑ The Scan function works by detecting a 4 second blank at the beginning of each selection, so it won't work well if your tape has:
  - No blank at the beginning of a track.
  - Noise (often caused by much use or poor quality dubbing) which fills the blank with noise.
  - Long very soft passages or pauses in a selection. The scan will detect these instead of the 4 second blanks. If this happens, just go ahead and scan again until you reach the selection you want.
- ❑ Music scan only works on one tape at a time.
  - If you are recording on Deck B, music scan will not work on deck A.

Scan Forward.....

Scan Forward

With the tape playing, to find the beginning of the next selection, press Fast Right ▶▶ or Fast Left ◀◀ whichever one points in the same direction as the arrow with the slowly blinking LED.

- ❑ The tape will fast forward to the next selection and begin playing it.

.....Scan Back

Scan Back

With the tape playing, to find the beginning of the selection now playing, press the Fast Right ▶▶ or Fast Left ◀◀ button pointing the opposite direction from the arrow with the slowly blinking LED.

- ❑ The tape will fast reverse to the beginning of the piece and start playing it again.

More Useful Things to Know:
•Continuous Play
•Reverse Mode
•Dolby

Useful hints and features to know about when using your tape deck

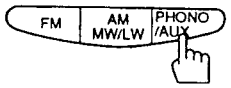
- ❑ **Continuous Play:** When a tape finishes playing, the Unit always checks to see if a tape is in the other deck. If one is there, it automatically starts playing it while rewinding the first tape. This Continuous Play happens regardless of which deck starts first.
- ❑ Use **Reverse Mode** to make the tape automatically reverse at the end of a side and start playing the other side. Press REVERSE MODE to change from Reverse Mode on (the LED is lit) to Reverse Mode off, or from off, to on.
  - If there is a tape in the other deck, it will start playing when both sides of the first tape have been played. As long as the Reverse Mode LED is lit, the tapes will continue to play in the above sequence.
  - If the Reverse Mode LED is not lit, the tape will play to the end of the current side, switch to the other deck and start playing a tape there while rewinding the first tape.
- ❑ Press DOLBY B NR to switch **Dolby Noise Reduction** on (the LED lights up) or off (the LED goes off). If a tape is recorded with Dolby B NR, playing it back with Dolby on will reduce tape noise and improve the clarity of the sound.

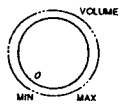
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡, are trademarks of Dolby Laboratories Licensing Corporation.

Listening to a VTR or Record Player through your CA-MXS3BK

Advantages in Connecting a VTR or Record Player

By playing the sound from a VTR or Record Player through the CA-MXS3BK, you can often dramatically improve the quality, and gain control over how the music or program sounds. Once the connected equipment is playing through the CA-MXS3BK, you can apply the sound effects, make recordings, or listen with the headphones. Here are the steps to take:





1. Make a connection between the VTR or Record Player as shown on page 4.
   - ❑ Since there are many different types of VTRs and Record Players, we can't tell you here just how to make the connections on the other equipment. However, the diagrams on page 4 will cover most cases, and you can also look in the instruction manual for the VTR or Record Player you have.
   - ❑ Before using the connected equipment, you have to tell the CA-MXS3BK whether a Record Player or something else is connected. To do this, set the PHONO/AUX selector on the rear panel to PHONO for a Record Player, or AUX for any other kind of equipment.
2. Press PHONO/AUX either on the Unit or Remote.
   - ❑ The Unit is turned on and PHONO lights up on the display. (Even though you have selected AUX by the PHONO/AUX selector, the indication on the display is always PHONO.)
3. Switch on the connected equipment and start it playing.
4. Set the Unit's volume to its lowest setting. Use FADE/MUTING on the Remote, or turn the VOLUME control all the way counterclockwise.
5. To cancel PHONO/AUX setting, change the source by starting any one of the CA-MXS3BK's built-in sound sources, such as the radio or CD player.

CAUTION: DO NOT set the PHONO/AUX selector while the Unit is turned on.

Recording

What can you record?
- **Tapes**
- **Radio**
- **CDs**
- **Microphone**
- **Connected Source**

Recording onto cassette tape from any of the sound sources is easy and the CA-MXS3BK does most of the work. Just have a tape in deck B, have the source ready, make one or two settings, and you're ready to record.

For each source the procedure is a little different and now we'll explain just what to do for each one. If you forget, just come back to the section which has the specific procedures you need. But first, here are a few things to make your recordings better.

Things to Know before You Start Recording:

Copyright

- **It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.**

Reduce Hiss—Dolby NR

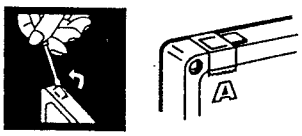
- Press DOLBY B NR (noise reduction)—the LED lights up—to reduce tape hiss, **except** when dubbing from a tape which was already recorded with Dolby NR. Then it is better to leave the Dolby function off.

Recording Level

- The recording level, which is the volume at which the new tape is being made, is automatically set correctly, so it is not affected by the VOLUME control on the CA-MXS3BK. Thus, you can adjust the sound you are actually listening to without changing the recording. If you don't want to listen to the sound, you can turn the VOLUME control all the way down, or press FADE/ MUTING on the Remote.

Erasure Protection

- Cassettes have a special feature so you won't accidentally record over a tape you want to save. Two small tabs on the back, one for side A and one for side B, can be removed to prevent erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with tape first. However, when a Type II tape is used, only cover part of the hole as shown below, since the other part of the hole is used to detect the tape type.



Select Sound Effects

- When recording, you can select the sound effects with the preset sound effect buttons to condition the music as it is recorded. But when recording using Auto Edit or CD Direct, once recording has started, these settings cannot be changed. When recording from tape Deck A to Deck B, the sound effects cannot be used, because the signal doesn't go through the amplifier first. This method gives you the highest quality dubbed tapes.

- Type I and type II tapes can be used for recording. While type IV tapes can be played, type IV tapes cannot be used for recording on the CA-MXS3BK.

☞ If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during the recording. Either turn off the TV or increase the distance between the TV and the CA-MXS3BK.

Standard Recording

Standard Recording: Any Source to Tape

This is the basic method for recording any source. The CA-MXS3BK also has special ways for recording CD to tape, and tape to tape, which save you time and effort, as well as give you some special effects.
However, when you need to add a selection to a tape you have made, or are combining selections from several sources on one tape, use the method we describe here; just substitute the source you want, such as a tape in deck A, or CD, or radio in this procedure. You can also record from the microphone or an auxiliary source with this procedure.

Recording any Sound Source to Tape

Source to Tape: Step by Step

Follow these steps to record from any sound source onto a tape in deck B.

1. Press POWER so the LED on the VOLUME control glows.
   - ❑ Press REVERSE MODE if you want to record on both sides of the tape.
2. Load the tape you are making into Deck B.
3. Press REC PAUSE. The LED lights up.
4. Prepare the source, for example, tuning in a radio station, loading a CD, turning on a connected Record Player or VTR, etc.
   - ❑ If the source is already playing, Just press REC PAUSE, then press either Play Forward ▷ to record on side A, or Play Reverse ◁ to record on side B.
   - ❑ If the source is a Record Player or VTR, make sure you have set the PHONO/AUX selector on the rear panel in place.
5. When you want to start recording, press either Play Forward ▷ to record on side A, or Play Reverse ◁ to record on side B of the tape.
   - ❑ Hint: any time a source other than deck B is playing, you can record by putting a tape in deck B, pressing REC PAUSE, then Play Forward ▷ or Play Reverse ◁ to start recording that source.

CD to Tape Recording

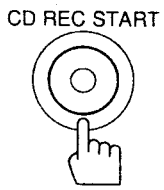
CD to Tape, Introduction

There are three ways to record from CD to tape:

- ❑ The standard method described above.
- ❑ CD Direct Record—Everything on the CD goes onto the tape in the order it is on the CD, or according to an order you have set in a program.
- ❑ Auto Edit—Your CA-MXS3BK figures out which selections to put on which side of the tape, so a selection isn't cut off before it's finished when the tape runs out.

CD Direct Record

CD Direct Record, Step by Step



1. Put a cassette in deck B.
2. Load a CD into the tray and press ▲ OPEN/CLOSE.
   - ❑ If you want to record on both sides of the tape, press REVERSE MODE on the tape deck (the LED will light up).
3. Press CD REC START on the tape deck.
   - ❑ The Unit will automatically rewind the tape to the beginning of side A, create a 10 second blank, turn on the CD and start recording.
     - At the end of the tape, the CA-MXS3BK automatically goes back to the beginning of the last selection and re-records it, this time gently fading out at the end. If you selected the Reverse Mode, side B starts with the last selection on side A.
     - When the tape is finished, the Unit shuts off the CD and the tape deck goes into Stand-by mode.
     - Any time during the recording process, you can interrupt by pushing either ■/CLEAR on the CD player or Stop ■ on deck B.

Recording a CD onto a Tape Using Auto Edit

Auto Edit, CD to tape, Introduction

Using Auto Edit, you can arrange the CD tracks to fit the tape, so a selection isn't cut off when the tape runs out first. Auto Edit is one of the best ways to copy all of a CD onto a tape.

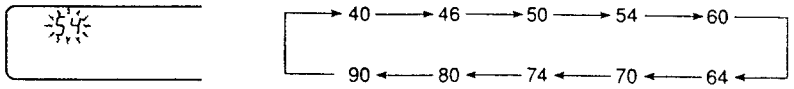
The selection of which tracks go on which side is based on the lengths of the tracks and the length of the tape. The CA-MXS3BK can figure out most of what it needs to know, but you will have to tell it the tape size you are using if your tape is a different size than the one picked by the program. Follow this procedure to record a CD using Auto Edit.

Auto Edit, CD to tape, Step by Step

1. Put the cassette in deck B.
   - ❑ Press REVERSE MODE if you want to record on both sides of the cassette.
2. Load the CD into the CD Player.
   - ❑ If the CD is already loaded, be sure the power is on.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■/CLEAR.
   - ❑ This cancels the previous edit or program setting.

AUTO EDIT

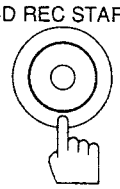
5. Press AUTO EDIT on the CD player. The system tells you the minimum standard tape length to use.
   - ❑ You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-MXS3BK: 40, 46, 50, 54, 60, 64, 70, 74 , 80 , 90. Cycle through these choices using the SEARCH/EDIT TIME ⏮ or ⏭ until you find the length closest to your tape's actual length.



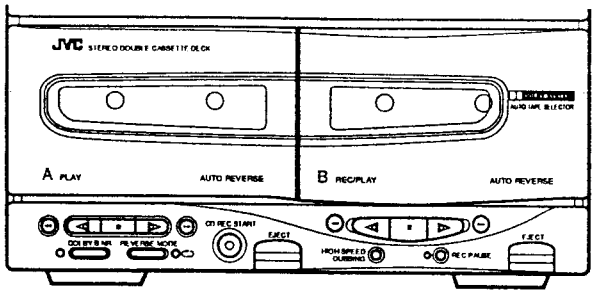
SIDE A/B

6. Press SIDE A/B, and the display shows which tracks will go on side A and which on side B. Each time you press SIDE A/B the display switches between A and B.
7. Now press CD REC START on the tape deck.
   - ❑ The tape automatically rewinds to the beginning of side A, a 10 second blank is created, and the CD begins to play and be recorded.
   - ❑ To stop recording any time during the process, press either Stop ■ on deck B or ■/CLEAR on the CD player. But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning.

CD REC START



Tape to Tape Recording (Dubbing)



Tape to Tape Dubbing, Introduction

Recording from one tape to another is called dubbing.
You can dub at regular speed for highest quality, or at high speed with a slight loss in sound quality. With high speed it takes only about one-half the time to copy a tape.

- ❑ Refer back to "Things to Know before You Start Recording" on page 14.
- ❑ Refer back to "Listening to a Tape" on page 12 if you have other questions about operating the tape deck.

Regular Speed Dubbing, Step by Step

How to Copy a Tape With Regular Speed Dubbing

1. Put the cassette you want to copy *from* into deck A for playback.
2. Put the cassette you want to copy *onto* into deck B for recording.
   - ❑ Anything already on the cassette in Deck B will be erased as the new sound from deck A is copied onto it.
3. Press REC PAUSE on deck B.
4. Press the Play Forward ⊳ (or Play Reverse ⊲) on deck A.
   - ❑ Deck A starts playing and you are set to start recording deck A to deck B.
5. Press the Play Forward ⊳ (or Play Reverse ⊲) on deck B.
   - ❑ Recording starts, deck A playing and deck B recording.

Important Dubbing Information

The type of tape (Normal or CrO_2) you record *from* must be the same as the type you record *onto* .

- ❑ When the tape you are recording from in deck A has been recorded with Dolby B NR, you should turn off the Dolby function by pressing DOLBY B NR on the tape deck so the LED is off.
- ❑ During regular speed dubbing you can only listen to the source tape. If you don't want to hear it, turn down the VOLUME control or press FADE/MUTING on the Remote. Only the sound you hear will be affected; the recording level is controlled automatically.
- ❑ You cannot dub using the sound effects such as DANCE CLUB, HALL, etc.

High Speed Dubbing

High Speed Dubbing, Step by Step

Although the quality of the dubbed tape is a little less, high speed dubbing is a very convenient way to record from one tape to another.

1. Put the cassette you want to copy *from* into deck A, and the cassette to be copied *onto* in deck B.
2. Press HIGH SPEED DUBBING on the tape deck.
   - ❑ Both decks start, deck A playing and deck B recording.
     - The sound you hear is strange because it is much faster than usual, and you may not want to listen to it. Turn it down with the VOLUME control, or press FADE/MUTING on the Remote.
     - When using high speed dubbing, you can also listen to another source such as the radio or the CD player, just as if you weren't dubbing.
     - During high speed dubbing, if you listen to a CD with Auto Power Off turned on, the whole Unit, including the tape decks, may turn off when the CD ends.

Recording selections from several different tapes

When you want to take selections from several different tapes and combine them on one tape during high speed dubbing, follow these steps:

1. Press Stop ■ on deck A.
   - ❑ This causes deck A to stop, so you can change tapes, and deck B makes a 4 second blank and pauses.
2. Change the tape in deck A.
3. Press HIGH SPEED DUBBING to start deck A playing and deck B recording again.

How to use the Timers and Set the Clock

Four Timers:
- **Record**
- **Wake up**
- **Sleep**
- **Auto Power Off**

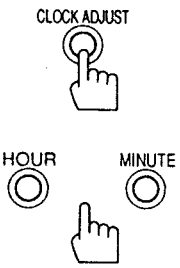
The timers let you control recording and playing functions automatically. With the CA-MXS3BK they are particularly easy to set and use. Four types of timers are available:

- ❑ **Rec Timer**—unattended recording of radio broadcasts. You can set the starting time and recording duration.
- ❑ **Wake up Timer**—Wake up to music from any source.
- ❑ **Sleep Timer**—Fall asleep and have your CA-MXS3BK turn off automatically after a certain length of time.
- ❑ **Auto Power Off**—Automatically turns off the Unit when the CD or tape finishes.

Clock Setting

IMPORTANT!
set your clock!

The timers depend on the clock: If the clock is right, the timers will work like you expect, but if the time is incorrect on the clock then the timers will also be incorrect.



Special Notice: The clock must be set, or the timers cannot be set!
So, let's set the clock first.

1. Press CLOCK ADJUST.
2. Set the hour by pressing HOUR. Each time you press it, the hour advances by one. Hold the button down, and the clock will advance one hour at a time as long as HOUR is held down.
3. Set the minutes by pressing MINUTE. Each time you press MINUTE the minutes advance by one. Hold the button down, and the minutes advance in 10 minute increments as long as MINUTE is held down.
4. Press CLOCK ADJUST again and the clock is set and starts from zero second.

☞ If there is a power failure, the clock looses its setting, the display shows "0:00," and it must be reset.

MC-Service

Setting the Recording Timer

Recording when you're not there

With the recording timer you can make a tape of a radio broadcast automatically whether or not you are there to start the CA-MXS3BK. For the timer to work correctly, you need to make sure of two things in addition to setting the time for the radio and tape recorder to come on:

- ❑ The tape you want to record onto must be in deck B.
- ❑ The radio station whose program you want to tape must be the last one played before timer comes on.

Follow this procedure to set the Recording Timer:

1. Press REC TIMER— REC TIMER flashes on the display. As long as it is flashing, you can continue with the setting process. If you wait too long, and it stops before you are done, just press REC TIMER twice and start over.
2. Set the time you want the radio to come on and the tape in deck B to start recording.
   - ❑ Use HOUR and MINUTE just like setting the clock. See page 17.
3. Press SOURCE/REC TIME to set the length of time for the recording.
   - ❑ Each time you press this button, the duration increases by one minute. If you hold the button down, it will advance in ten minute increments up to 120 minutes, which is the maximum time you can set.
   - ❑ At the end of the set length of time the radio and deck B will shut off.
   - ❑ If you set no time, but leave the display showing —:—, the CA-MXS3BK will not shut off, but keep playing until you shut it off.
4. Press REC TIMER again, or wait eight seconds, and the Unit will memorize the setting. Now the CA-MXS3BK is set to turn on and record the last station set when the Unit was last turned off.
   - ❑ Notice that the REC TIMER indicator is lighted up on the display whenever the Recording Timer is set.

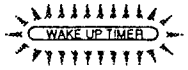
5. To cancel the Recording Timer setting, press the REC TIMER button again; the REC TIMER indicator on the display goes off.

> ☞ It is very easy, and can be very disappointing, to forget to put in a tape, or to accidentally leave a tape in deck B you don't want recorded over. Although this happens to almost everyone sometimes, we hope it won't happen to you!
>
> ☞ When the recording timer switches on the CA-MXS3BK, the volume coming out of the speakers is controled by the VOLUME control, so set it to MIN if you will be out during the recording.

Wake up Timer

Wake up to music with the Wake Up Timer

With this timer you can wake up to music from a CD, tape or your favourite radio program.



1. Press WAKE UP TIMER—The WAKE UP TIMER display will light up the display screen.
2. Set the time you want the Unit to turn on.
   - ❑ Use HOUR and MINUTE just like setting the clock. See page 17.
3. Set the source by pressing SOURCE/REC TIME. Each time you press this button, the display screen shows one of the four possible sources: CD, TAPE, FM or AM (MW/LW). Leave the one you want lit.
4. Press WAKE UP TIMER again, or wait eight seconds, and the CA-MXS3BK memorizes your settings.
   - ❑ The WAKE UP TIMER indicator remains lit on the display screen to let you know that the Wake Time is set.
5. To cancel the WAKE UP TIMER setting, press WAKE UP TIMER again, and the WAKE UP TIMER indicator on the display will turn off.

Hints for using your Wake up Timer:

- ❑ If you select AM (MW/LW) or FM as the source, the last played station is the one which comes on at Wake Up time set.
- ❑ The volume when the timer turns on the source is the volume last set when the CA-MXS3BK was turned off. This can be quite a surprise first thing in the morning, so you might want to reset it before going to sleep.
- ❑ If the CD is the source, it starts playing from the first track.

Sleep Timer

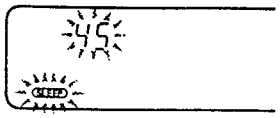
Sleep Timer: turns the Unit off automatically after a set time

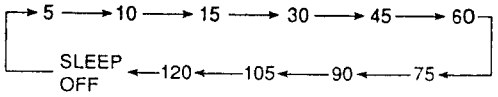
Use the sleep timer to turn the Unit off after a certain number of minutes when it is playing. Using this timer, you can fall asleep to music and know your CA-MXS3BK will turn off by itself rather than play all night.

- ❑ You can only set the Sleep Timer when the CA-MXS3BK is on and a source is playing.
- ❑ To cancel the Sleep Timer setting simply press SLEEP until the SLEEP indication disappears from the display. Turning off the Unit also cancels the Sleep Timer.

To set the Sleep Timer follow this procedure:

1. With the CA-MXS3BK on and a source playing, press SLEEP. The SLEEP indicator on the display will start blinking.
2. Set the length of time you want the source to play before shutting off.
   - ❑ Each time you press SLEEP while the SLEEP indication is blinking, it changes the number of minutes shown on the display in this sequence:





- ❑ The actual time when the CA-MXS3BK will shut off shows in the right hand corner of the display where the clock time is usually displayed.
- ❑ When the number of minutes you want shows on the display, just wait 8 seconds until the indicator stops blinking, but remains lighted.

The Unit will now turn off after the number of minutes you set.

Timer Priority

Since each timer can be set independently, you may have wondered what happens if the settings overlap: for instance, suppose you set the Recording Timer to record a broadcast from 1 am to 1:30 am, and then you set the sleep timer at midnight to run until 2 am. Will you still get your radio program recorded? Here are the priorities for each timer:

- ❑ The Recording Timer always has priority. This means that:
  - If another timer is set to come on during a time the Recording Timer is operating, the other timer just won't come on at all, so you will always get the entire program on tape.
  - If the Recording Timer is set to come on while another timer is in charge, the other timer will shut off 10 seconds before the Recording Timer is set to turn on, and the Recording Timer will then take over.
- ❑ The Sleep Timer has priority over the Wake up Timer. This is important because if you set the Sleep Timer to end after the Wake up Timer would start, the Wake up Timer doesn't come on. So if you want your alarm to go off as scheduled, be sure the Sleep Timer shuts off before the Wake up Timer is to turn on the Unit.

Turning off the CA-MXS3BK Automatically

Auto Power Off: turns off your CA-MXS3BK automatically

When playing either a tape or a CD, Auto Power Off will shut the Unit off when the tape or CD comes to the end. Although Auto Power Off is very useful for shutting off the CA-MXS3BK at night, you can also use it if you think you might forget to turn the Unit off when leaving the house or your room at other times of day. Turning on or off the Auto Power Off is easy, but there are a few things to know about it if a tape is playing. To use Auto Power Off:

- ❑ Press AUTO POWER OFF, which is located between the display screen and the VOLUME control.
  - If the LED is on, Auto Power Off is on, and the source will automatically turn off when the tape or CD finishes.
  - If the LED is off, Auto Power Off is also off.
- ❑ Even if the Tuner Entry function is on, Auto Power Off will not switch at the end of the CD or tape to the radio as is usual with Tuner Entry on. Instead, Auto Power Off shuts everything off.
- ❑ Even if both tape decks are loaded, the Unit turns off when the currently playing deck finishes; however, in reverse play mode, the Unit plays the side currently playing, reverses and plays the other side, then shuts off.

Singing Along

What is Vocal Masking?

Have you ever wished you could sing with a real band, in place of the lead singer? The VOCAL MASKING (voice canceller) button lets you use regular tapes, CDs or records as sources of sing-along music. When you press VOCAL MASKING, the lead vocal is reduced, and you can replace it by singing into the microphone as the music plays. No microphone is supplied with the CA-MXS3BK, so you can select your own from the many kinds available. Remember: the sound quality is greatly affected by the quality of the microphone.

How to Sing Along with Vocal Masking:

Singing-Along Procedure

1. Turn the MIC LEVEL control all the way counterclockwise to the MIN position.
2. Attach the microphone (not supplied) by plugging it into the MIC jack in the amplifier section.
3. Start the source—CD, Tape, connected VTR, Record Player.
4. Press VOCAL MASKING—the LED will light up.
5. Now adjust the volume of the source with the main VOLUME control, and the volume of your voice with the MIC LEVEL control as you sing into the microphone.

Recording Your Singing-Along

Recording a Singing-Along Session

You can record a singing-along session under certain conditions.

- ❑ You cannot record your singing-along when the main source is a tape in deck A.

Here's the procedure for recording your singing-along:

1. Put the cassette you want to record onto in deck B.
2. Press REC PAUSE—see Recording, page 14 if you need more information about tape recording.
3. Follow the above procedure "How to Sing Along with Vocal Masking."
4. Press Play Forward ▷ (or Play Reverse ◁) on deck B, and deck B will start recording the source together with your voice in place of the lead vocal.

Important information about Vocal Masking

- ❑ Because the radio signal is not as reliable as signals coming from a tape or CD, you may not always get satisfactory results using the radio as a source for Vocal Masking.
- ❑ Some tapes and CDs are better sources for singing along than others.
  - Mono sources are not suitable for Vocal Masking.
  - On sources with duets, strong echoes, a chorus, or with only a few instruments, the singer's voice may not be completely reduced.
  - Poorly dubbed tapes may not work well for Vocal Masking.

Recording from the Microphone

Two ways of recording with the Microphone

You can use the microphone for two kinds of recording:

- ❑ Mixing—Sound going into the microphone is mixed with sound sent to the tape in deck B from some other source, such as the CD, or radio.
- ❑ Regular recording—Only sound picked up by the microphone is recorded.

Mixing

1. Put the cassette you want to record onto in deck B.
2. Connect the microphone to the MIC Jack.
3. Set deck B to recording pause mode by pressing REC PAUSE.
4. Start the source (radio, CD, and PHONO/AUX) and set the VOLUME control.
5. Adjust the microphone volume with the MIC LEVEL control.
6. When you are ready to record, press Play Forward ▷ (or Play Reverse ◁) on deck B, and both sound from the microphone and from the playing source will be recorded.

Regular Microphone Recording

1. Put the cassette you want to record onto in deck B.
2. Connect the microphone to the MIC Jack.
3. Set deck B to recording pause mode by pressing REC PAUSE.
4. Adjust the volume of the microphone with the MIC LEVEL control.
5. Now when you press Play Forward ▷ (or Play Reverse ◁) on deck B, whatever sounds the microphone picks up will be recorded.

Important information for using the microphone

Special Techniques for using the microphone

- ☞ You may have to experiment some to see just where to set the MIC LEVEL control to get the best recorded sound.
- ☞ To prevent howling and squealing when using the microphone, adjust the MIC LEVEL control and the VOLUME control, and try not to point the microphone at the speakers.
- ☞ When you are not using the microphone, keep the MIC LEVEL control set to MIN. It is best to disconnect the microphone when you will not be using it for a while.

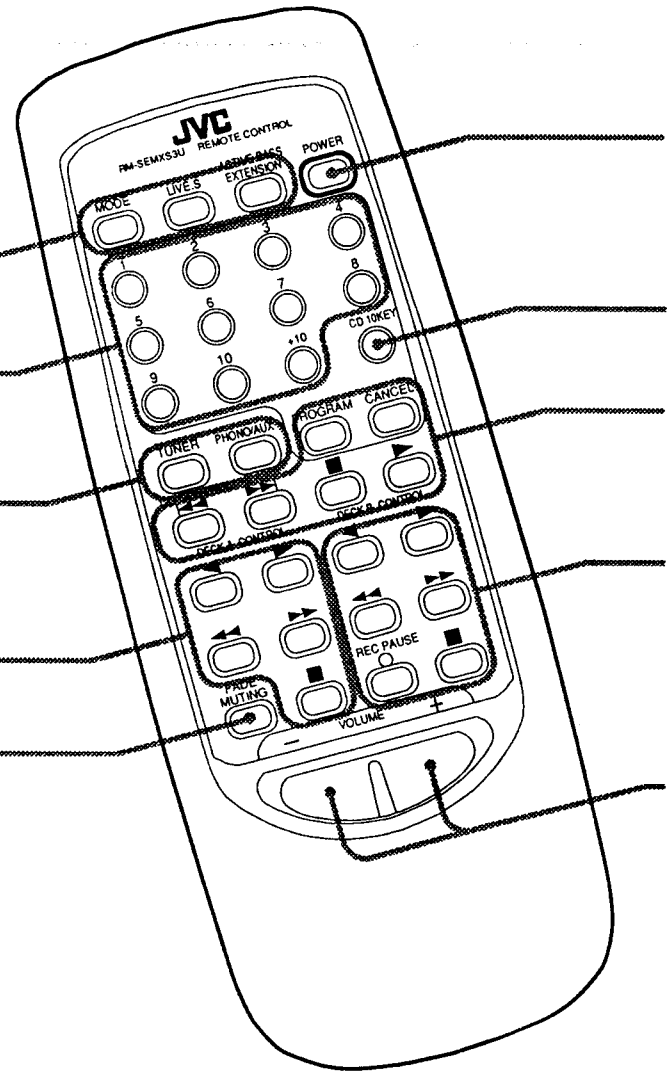
How to Use the Remote Control

The Remote Control makes it easy to control many of the functions of the CA-MXS3BK from a distance of up to 20 feet away. You do need to point the remote sensor at the CA-MXS3BK console.
Most of the buttons on the Remote Control do just what the ones on the front of the CA-MXS3BK do, and they are explained in the manual. A few functions are available only by using the Remote Control, and those are described below.

Using the Keypad

The Keypad is used to specify a CD track or the number you have assigned to a preset radio station. To enter a number using the key pad follow these steps:

- For numbers between 1 and 10, just press the button with the number you want.
- For numbers from 11 to 20, first press the +10 key, then the one's digit of the number you want—to get 15, first press +10, then 5. For 20 press +10 and 10 .
- For numbers from 21 to 30, press the +10 key twice; then press the one's digit—to get 25, press +10 +10 and 5 . For 30, press +10 +10 and 10
- For numbers from 31 and 40, follow the same procedure, only press the +10 key three times, then the one's digit—to get 32, press +10 +10 +10 and 2.



Turns power On or Off

Set the sound effects

Activate the keypad for entering track numbers, programming the CD, etc.

10 key pad
See description above

Control CD Player

Select tuner or auxiliary equipment

Control deck B

Control deck A

Press to automatically reduce volume when changing from one source to another, or turning the CA-MXS3BK on from a distance

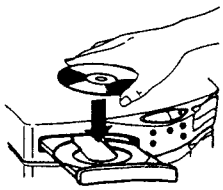
Volume up and down

Care and Maintenance—General Notes

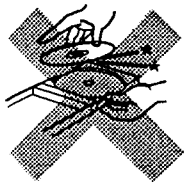
Compact Discs

Handle your compact discs, cassette tapes, and tape deck carefully, and they will last a long time.

- Remove the CD from the case by holding it at the edges while pressing the center hole lightly.
- Do not touch the shiny surface of the CD, or bend the CD.



- Place the CD into the open tray with the label facing up.



- Put the CD back in its case after use to prevent warping.
- Be careful not to scratch the surface of the CD when placing it back in the case.
- Avoid exposure to direct sunlight, temperature extremes, and moisture.

- A dirty CD may not play correctly. If a CD does become dirty, wipe it with a soft cloth in a straight line from center to edge.

CAUTION: Do not use any solvent (for example, conventional record cleaner, spray, thinner, benzine, etc.) to clean a CD.

In general, you will have the best performance by keeping your tapes, CDs, and the mechanism clean.

- Store tapes and CDs in their cases, and keep them in cabinets or on shelves.
- Keep the tape deck tape carriers and the CD tray closed when not in use.

Cassette Tapes

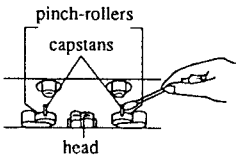
- If the tape is loose in its cassette, take up the slack by inserting a pencil in one of the reels and rotating.
- If the tape is loose it may get stretched, cut, or caught in the cassette.

- Do not touch the tape surface.

- Do not store the tape:
  -In dusty places
  -In direct sunlight or heat
  -In moist areas
  -On a TV or speaker
  -Near a magnet

Tape Deck

- If the heads, capstans, and pinch-rollers of the tape deck become dirty, the following will occur:
  -Impaired sound quality
  -Discontinous sound
  -Fading
  -Incomplete erasure
  -Difficulty recording
- Clean the heads, capstans, and pinch-rollers using a cotton swab moistened with alcohol.



- If the heads becomes magnetized, it will produce noise or loose high frequencies.
- To demagnetize the heads, turn off the system, and use a head demagnetizer (available at electronics and record shops).

Troubleshooting

- If you are having a problem with your CA-MXS3BK, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	ACTION
No sound is heard.	Connections are incorrect, or loose.	Check all conections and make corrections. (See pages 3 and 4.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcasts because of noise.	The antenna is disconnected.	Re-connect the antenna securely.
	The loop antenna is too close to the system.	Change the position and direction of the loop antenna.
	The feeder/wire antenna is not properly extended and possitioned.	Extend feeder/wire antenna at the best reception position.
The CD sound is discontinuous.	The CD is scratched or dirty.	Clean or replace the CD.
Unable to operate the Remote.	The path between the Remote and the sensor on the Unit is blocked.	Remove the obstruction.
	The batteries are discharged.	Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette carrier cannot be opened.	The system was turned off because the timer was operated while the tape was running.	Turn On the system.

Specifications

Amplifier
Output Power (IEC 268-3/DIN)
25 watts per channel, min. RMS, both channels dirven, into 6 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

Input Sensitivity/Impedance (1 kHz)
PHONO/AUX (selectable)

PHONO	3 mV/50 kohms
AUX	300mV/50 kohms
MIC	2 mV/10 kohms

Speaker terminals

Main speakers	6 ohms

Tape deck
Frequency response

CrO_2:	30 ~ 16,000 Hz
Normal:	30 ~ 15,000 Hz
Wow and Flutter	0.08% (WRMS)

Tuner
FM Tuner

Tuning Range	87.5 ~ 108.0 MHz
Usable Sensitivity	0.95 μV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio (IHF-A weighted)	MONO (at 85 dBf) 80 dB STEREO (at 85 dBf) 73 dB

AM Tuner

MW- Tuning Range	522 ~ 1,629 kHz
LW- Tuning Range	144 ~ 353 kHz
	144 ~ 290 kHz (Italy only)

Compact Disc Player

Dynamic Range (1 kHz)	90 dB
Signal-to-Noise Ratio	100 dB
Wow and Flutter	Unmeasurable

General

Power Requirements	230 V AC, 50 Hz
Power Consumption	94 Watts
Dimensions (Approx.)	245 x 265 x 344.5 mm (W/H/D) ($9^3/_4$ x $10^1/_2$ x $13^9/_{16}$ in.)
Weight (Approx.)	7.3 kg (16.1 lbs)

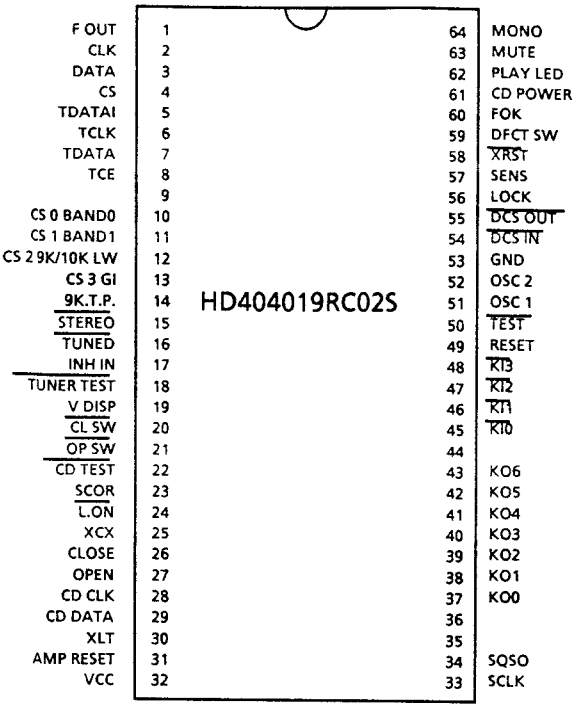
Supplied Accessories
FM wire antenna (only for Germany) (1)
FM feeder antenna (except for Germany) (1)
AM loop antenna (1)
Remote control (RM-SEMXS3U) (1)
Batteries R03(UM-4)/AAA(24F) (2)
Antenna adaptor (except for Germany) (1)

Design and specifications subject to change without notice.

Description of Major LSIs

■ HD404019RC02S(IC801) : CD/TUNER controller

1. Terminal Layout



2. Key Matrix

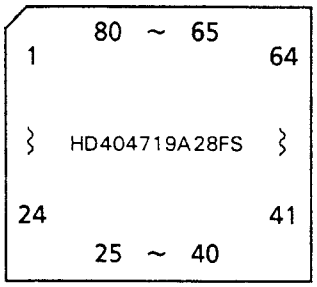
	KEY I 0 (PIN 45)	KEY I 1 (PIN 46)	KEY I 2 (PIN 47)	KEY I 3 (PIN 48)
KEY O0 (PIN 37)	RANDOM	WAKE UP	SLEEP	REC TIME
KEY O1 (PIN 38)	JUST EDIT	FM	Hour	CLOCK ADJ
KEY O2 (PIN 39)	REPEAT	AM	Min	AUTO PRESET
KEY O3 (PIN 40)	A/B	TUN V	REC TIME	MEMORY
KEY O4 (PIN 41)	PROGRAM	TUN Λ	PRESET <	–
KEY O5 (PIN 42)	⏮	▶ II	PRESET >	–
KEY O6 (PIN 43)	⏭	■	⏏	–

3. Terminal Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	F OUT	O	Frequency output (TP801)	28	CD CLK	O	Clock for data transmission
2	CLK	O	Clock to transmit data to IC802 (FL driver)	29	CD DATA	O	Serial data for signal processor of cd
3	DATA	O	Data output to IC802 (FL driver)	30	XLT	O	Latch signal for data transmission
4	CS	O	Chip select signal to IC802	31	AMP RESET	O	Reset signal to IC901
5	TDATAI	I	Data from IC102	32	VCC	–	Power supply
6	TCLK	O	Clock to transmit data to IC102	33	SCLK	O	Clock output for SQSO transmission
7	TDATA	O	Data output to IC102	34	SQSO	I	Input of Q-data of subcode
8	TCE	O	Chip select signal to IC102	35,36	–	–	Connected to GND
9	–	–	Connected to GND	37~43	KO0~KO6	O	Key matrix (out)
10	CS 0 BAND0	–	Tuner chip select	44	–	–	Connected to GND
11	CS 1 BAND1	–	Tuner chip select	45~48	KI0~KI3	I	Key matrix (in)
12	CS 2 9K/10K LW	–	Tuner chip select	49	RESET	I	Reset signal input
13	CS 3 GI	–	Not used	50	TEST	–	Pulled up
14	9K.T.P.	–	Not used	51	OSC 1	I/O	Oscillation terminal
15	STEREO	I	Input for 'STEREO' indication	52	OSC 2	I/O	Oscillation terminal
16	TUNED	I	Input for 'TUNED' indication	53	GND	–	GND
17	INH IN	I	Inhibition signal	54	DCS IN	I	DCS signal input
18	TUNER TEST	–	TEST mode terminal (TP801)	55	DCS OUT	O	DCS signal output
19	VDISP	–	Connected to GND	56	LOCK	I	Input terminal for LOCK signal
20	CL SW	I	'L' with the tray closed	57	SENS	I	Input terminal for SENS signal
21	OP SW	I	'L' with the tray opened	58	XRST	O	Reset signal output
22	CD TEST	–	TEST mode terminal (T.P.2)	59	DFCT SW	O	'H' with focus searching
23	SCOR	I	Subcode synchronizing signal is input	60	FOK	I	Input terminal for focus ok signal
24	L.ON	O	Laser control signal	61	CD POWER	O	Power control signal to cd section
25	XCX	O	'H' with tracking loop is off.	62	PLAY LED	O	Output terminal for indication of cd
26	CLOSE	O	'H' with the tray closing	63	MUTE	O	Muting signal to tuner section
27	OPEN	O	'H' with the tray opening	64	MONO	–	Not used.

■ HD404719A28FS(IC901) : System controller

1. Terminal Layout



2. Key input

IN1	IN2	IN3	IN4	IN5	IN6	IN7
A CrO_2	REV REC	KARAOKE	POWER	A ◀◀	B ◀◀	DOLBY B
B CrO_2	FWD REC	BASS	AI SLEEP	A ◀	B ◀	REV. MODE
A PACK	B PACK	SURR.	TUNER ENTRY	A ■	B ■	CD D REC
—	—	STADIUM	AUX	A ▶	B ▶	H.S.D.
—	—	HALL	—	A ▶▶	B ▶▶	REC P
—	—	DISCO	—	—	—	—

3. Terminal Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	IN1	I	Detecting buttons and switches	41	BFR	O	Reel motor control signal (forward)
2	IN2	I	Detecting buttons and switches	42	BRR	O	Reel motor control signal (reverse)
3	PRT	I	Input from protector circuit	43	BRC	O	Cam motor control signal (counterclockwise)
4	AD GND	—	Ground for A/D converter	44	BFC	O	Cam motor control signal (clockwise)
5	AMP RESET	I	Reset signal from IC801	45	AFR	O	Reel motor control signal (forward)
6	OSC1	—	Oscillasion terminal	46	ARR	O	Reel motor control signal (reverse)
7	OSC2	—	Oscillasion terminal	47	ARC	O	Cam motor control signal (counterclockwise)
8	L GND	—	GND	48	AFC	O	Cam motor control signal (clockwise)
9	—	—	Connected to GND	49	—	—	Connected to GND
10	—	—	Connected to GND	50	ASC2	I	Input of mechanism information (deck A)
11	$\overline{TEST}$	—	Connected to +5V	51	ASC1	I	Input of mechanism information (deck A)
12	+5V	—	Power supply	52	ACS0	I	Input of mechanism information (deck A)
13	$\overline{DCS\ IN}$	I	DCS signal input	53	BCS2	I	Input of mechanism information (deck B)
14	$\overline{DCS\ OUT}$	O	DCS signal output	54	BCS1	I	Input of mechanism information (deck B)
15	FADE	O	Fade recording control	55	BCS0	I	Input of mechanism information (deck B)
16	BIAS	O	Bias circuit control (on / off)	56	SMT	O	Muting control (Power on/off)
17	ACAP	O	Drive signal for the capstan motor of deck A	57	$\overline{G}$	O	Control signal for IC909
18	BCAP	O	Drive signal for the capstan motor of deck B	58	ADSO	O	Serial data to IC909
19	AMC	O	Speed control signal for deck A	59	RCK	O	Strobe output to IC909
20	BMC	O	Speed control signal for deck B	60	AD SCK	O	Clock output to IC909
21	APLS	I	Input of reel pulse (Deck A)	61	RMIN	I	Input from remote signal detector
22	BPLS	I	Input of reel pulse (Deck B)	62	SP CLK	O	Clock output to IC803
23	RMT	O	Recording mute control	63	DI	O	Data output to IC803
24	NR	O	Noise reduction control	64	CS	O	Chip select signal to IC803
25	NR REC	O	Mode conrol of NR (REC/PLAY)	65	MSI	I	Blank detection terminal for music scanning
26	$\overline{H.S.D.}$	O	Control signal for high-speed dubbing	66	CLK	O	Clock output to IC403 (Tone selector)
27	$\overline{PBCR}$	O	Playback equalizer control	67	STB	O	Strobe output to IC403 (Tone selector)
28	DISCO	O	Indication signal	68	DATA	O	Data output to IC403 (Tone selector)
29	LC	O	Rec. EQ control (Normal speed : CrO_2)	69	POWER	O	Power control
30	HC	O	Rec. EQ control (High speed : CrO_2)	70	SPK	O	Speaker relay control
31	HN	O	Rec. EQ control (High speed : Normal)	71	VOL DOWN	O	Master volume control
32	$\overline{BCR}$	O	'L' when using high position tape	72	VOL UP	O	Master volume control
33	SURR	O	Indication signal	73	A PLAY	O	'H' with deck A playing
34	AI SLEEP	O	Indication signal	74	PB MUTE	O	Muting control for cassette decks
35	BGM.M	O	Indication signal	75	AD VCC	—	+5V
36	KARAOKE	O	Indication signal	76	IN3	I	Detecting buttons and switches
37	A.BASS	O	Indication signal	77	IN4	I	Detecting buttons and switches
38	STB-BY	O	Indication signal	78	IN5	I	Detecting buttons and switches
39	STADIUM	O	Indication signal	79	IN6	I	Detecting buttons and switches
40	HALL	O	Indication signal	80	IN7	I	Detecting buttons and switches

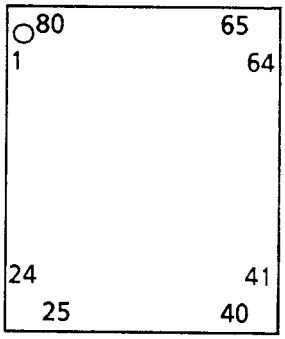
■ CXD2505Q(IC701) : DIGITAL SIGNAL PROCESSOR

1. Outline

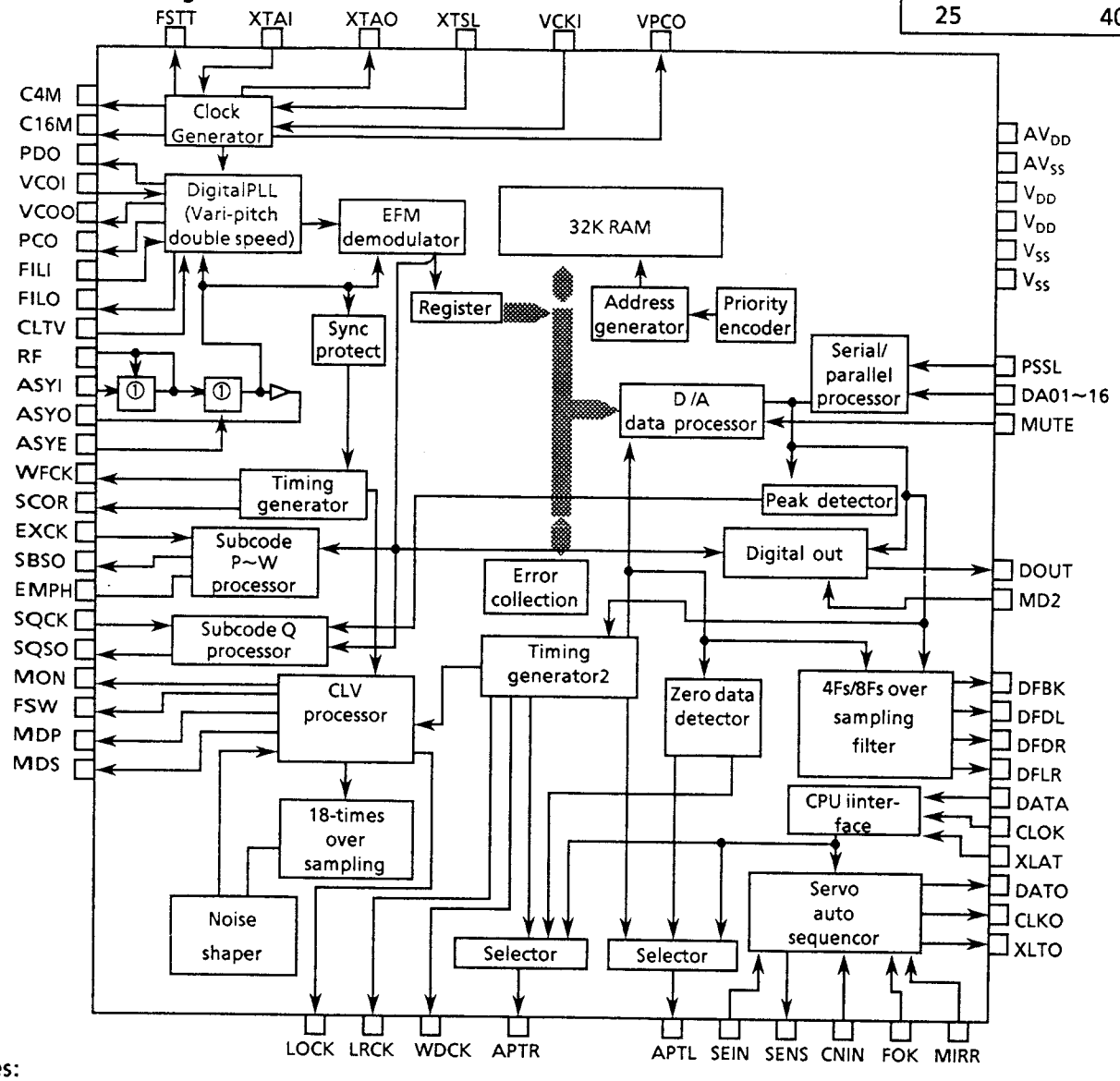
The CXD2505Q is a digital signal processsing LSI designed for use in compact disc players. It has the following functions:

- All digital signals for regeneration are processed using one chip.
- The built-in RAM enables high-integration mounting.
- Generation by the use of a digital PLL of bit clock pulses for strobing the EFM signal.
- EFM data demodulation
- Subcode demodulation and subcode Q data error detection
- Digital spindle servo system (incorporating an oversampling filter)

2.Terminal Layout



3.Internal Block Diagram



Notes:

- The data at the 64-bit slot is output in 2's complements on an LSB-first basis. The data at the 48-bit slot is output in 2's complements on an MSB-first basis.
- GTOP monitors the state of Frame Sync protection. ("H" : Sync protection window released)
- XUFG is a negative Frame Sync pulse obtained from the EFM signal before Frame Sync protection is effected.
- XPLCK is an inversion of the EFM PLL clock. The PLL is designed so that the falling edge of XPLCK coincides with a change point of the EFM signal.
- The GFS signal turns "H" upon coincidence between Frame Sync and the timing of interpolation protection.
- RFCK is a signal generated at 136-μs periods using a crystal oscillator.
- C2PO is a signal to indicate a data error.
- XRAOF is a signal issued when a jitter margin of ± 28F is exceeded by the 32K RAM.

MC-Service

4. Terminal Functions

Pin No.	Symbol	I/O	Function
1	FOK	I	Focus OK input pin. Used for SENS output and servo auto sequencer.
2	FSW	--	Non connection
3	MON	O	Output for spindle motor ON / OFF control.
4	MDP	O	Output for spindle servo control.
5	MDS	O	Output for spindle servo control (Non connection).
6	LOCK	O	This terminal is "H" when the GFS signal sampled at 460Hz is "H". It turns "L" when the GFS signal turns out "L" 8 or more times in succession.
7	DFBK	O	Bit clock for digital filter is output when digital filter is on, L with digital filter off.
8, 9	—	--	Non connection
10	TEST	I	Test pin (Normally at 0V)
11	PDO	O	Output of charge pump for analog EFM PLL (Non connection).
12	Vss	--	GND
13	DFDL	O	When digital filter is on. 4Fs : Serial data of left and right channel is output in time division. (2's complements, MSB first) 8Fs : Serial data of left channel is output. (2's complements, MSB first) 'L' with digital filter off.
14	DFDR	O	When digital filter is on. 4Fs : Word clock is output (f = 8Fs) 8Fs : Serial data of right channel is output. (2's complements, MSB first) 'L' with digital filter off.
15	DFLR	O	L/R clock from digital filter is output. 'L' with digital filter off.
16	VPCO	--	Non connection
17	VCKI	I	Clock input from external VCO for vari-pitch control.fc = 16.9344MHz. (connected to GND)
18	FILO	O	Output from filter for masterPLL (Slave = Digital PLL)
19	FILI	I	Input to filter for master PLL.
20	PCO	O	Output of charge pump for master PLL.
21	AVss	--	Analog GND
22	CLTV	I	VCO control voltage for master PLL is input.
23	AV_{DD}	--	Analog power supply
24	RF	I	EFM signal input
25, 26, 28	TEST2, 3, 4	I	TEST pin (Connected to GND)
27	ASYO	O	EFM full-swing output
29	NC	--	Non connection
30	PSSL	I	Input used to switch the audio data output mode."L" for serial output,"H" for parallel output.
31, 32	—	--	Non connection
33	V_{DD}	--	Power supply
34~51	—	--	Non connection
52	VSS	--	GND
53	XTAI	I	Oscillation terminal
54	XTAO	O	Oscillation terminal
55	XTSL	I	Xtal selection input pin. "L" for 16,344MHz Xtal, "H" for 33.8688 MHz Xtal. (connected to GND)
56~58	—	--	Non connection
59	MD2	I	Digital-Out ON/OFF control. "H" for ON, "L" for OFF. (connected to GND)
60~62	—	--	Non connection
63	SCOR	O	Turns "H" when subcode Sync S0 or S1 is detected.
64	—	--	Non connection
65	EXCK	I	Clock input to output SBSO.
66	SQSO	O	Outputs 80-bit Sub Q and 16-bit PCM peak-level data.
67	SQCK	I	Clock input to output SQSO.
68	MUTE	I	"H" for muting, "L" for release.
69	SENS	O	SENS output to CPU.
70	XRST	I	System reset. "L" for resetting.
71	DATA	I	Inputs serial data from CPU.
72	XLAT	I	Latches serial data input from CPU at falling edge.
73	V_{DD}	--	Power supply(+ 5V)
74	CLOK	I	Inputs serial data transfer clock from CPU.
75	SEIN	I	Inputs SENSE from SSP.
76	CNIN	I	Inputs track jump count signal.
77	DATO	O	Outputs serial data to SSP.
78	XLTO	O	Outputs latch signal for serial data output from terminal 77.
79	CLKO	O	Outputs serial data transfer clock to SSP.
80	MIRR	I	Inputs mirror signal to be used in the mode of auto sequence when jumping 128 or more tracks.

■ CXA1372S (IC703) : RF SIGNAL PROCESSING SERVO AMPLIFIER

1.Outline

The CXA1372S is a bipolar IC developed for RF signal processing (focus OK, mirror, defect detection, EFM comparator) and servo control.

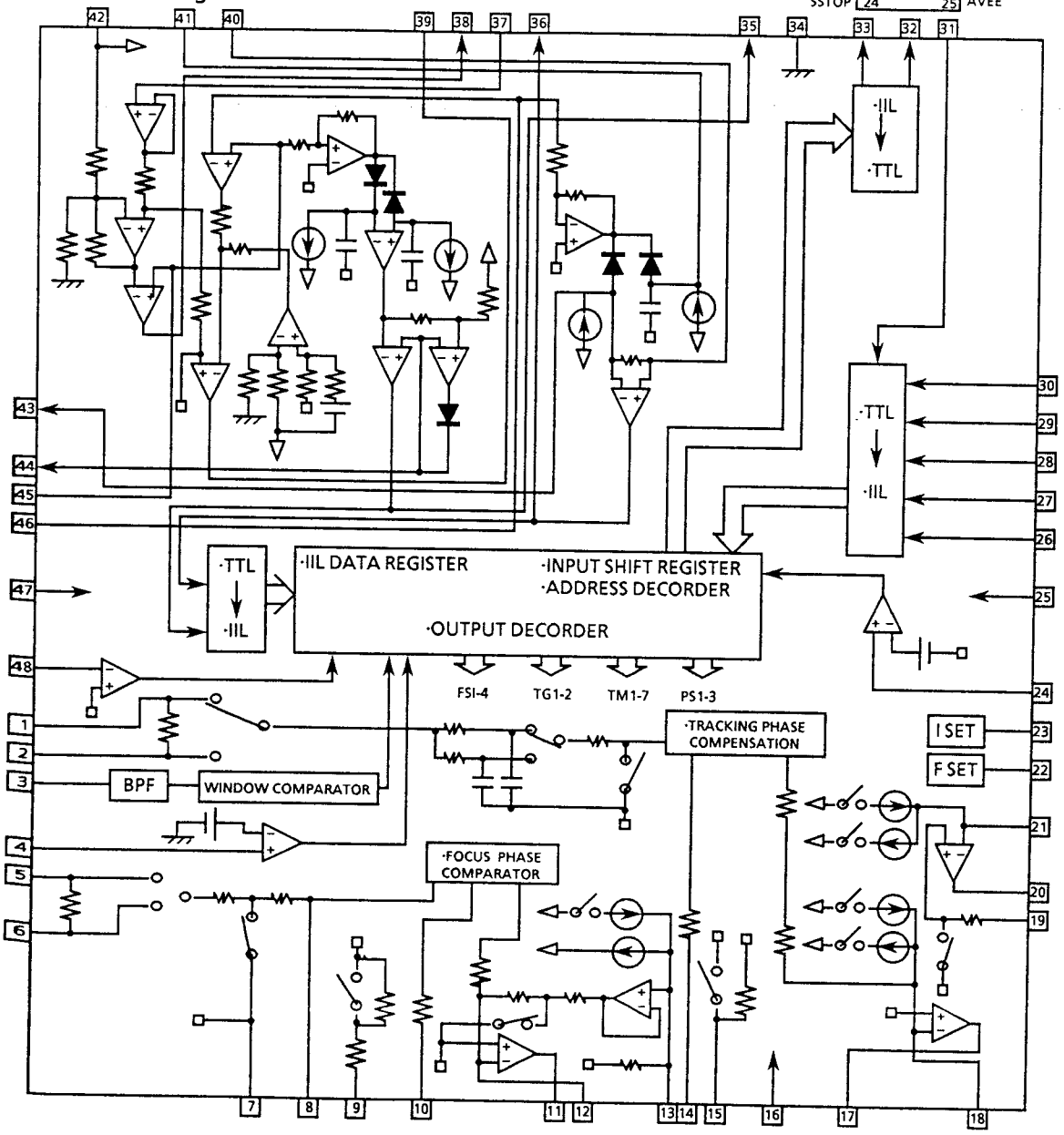
2.Functions

- Auto asymmetry control
- Focus OK detection circuit
- Mirror detection circuit
- Defects detection, counter measures circuit
- EFM comparator
- Focus servo control
- Tracking servo control
- Feed servo control

3.Terminal Layout

TE	1	48	TZC
TDFCT	2	47	DVEE
ATSC	3	46	RFO
FZC	4	45	RFI
FE	5	44	CP
FDFCT	6	43	CB
VC	7	42	DVCC
FGD	8	41	CC2
FS3	9	40	CC1
FLB	10	39	FOK
FEO	11	38	EFM
FE−	12	37	ASY
SRCH	13	36	DFCT
TGU	14	35	MIRR
TG2	15	34	DGND
AVCC	16	33	SENS
TAO	17	32	C.OUT
TA−	18	31	XRST
SL+	19	30	DATA
SLO	20	29	XLT
SL−	21	28	CLK
FSET	22	27	LOCK
ISET	23	26	DIRC
SSTOP	24	25	AVEE

4.Internal Block Diagram



5.Terminal Functions

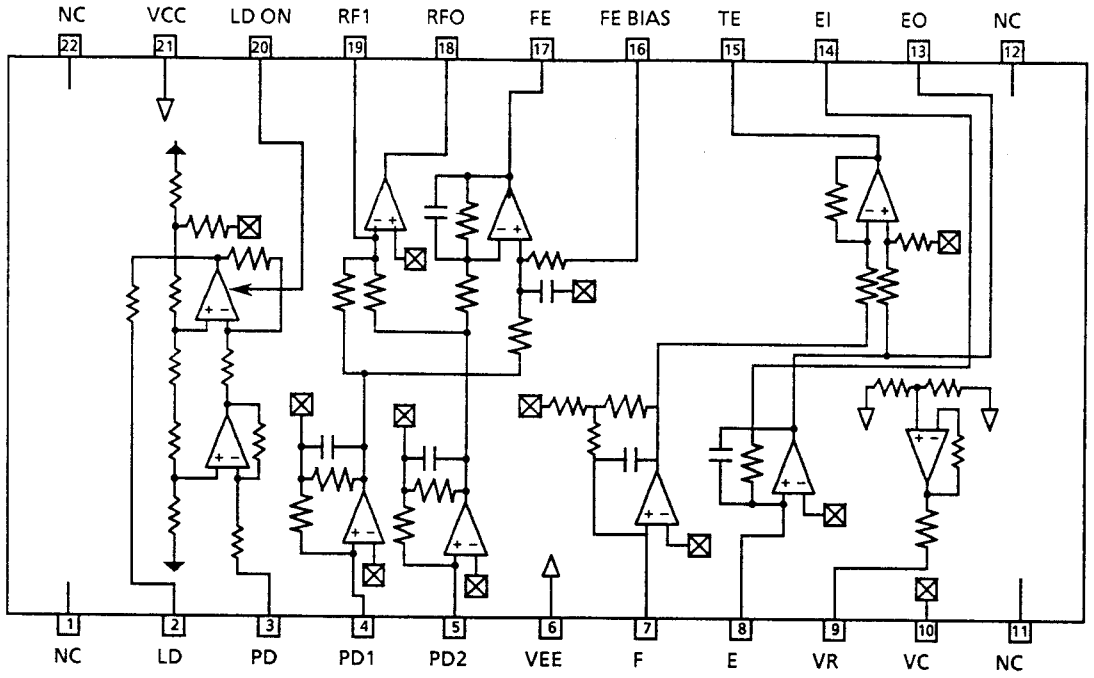
Pin No	Symbol	I/O	Function
1	TE	I	Input pin of tracking error amplifier.
2	TDFCT	I	Capacitor connecting pin for time constant during defects.
3	ATSC	I	Window comparator input pin for ATSC detection.
4	FZC	I	Pin for focus zero-cross comparator input.
5	FE	I	Input pin of focus error.
6	FDFCT	I	Capacitor connecting pin for time constant during defect functions.
7	VC	I	Center voltage input pin. For dual power: GND For single power supply: (VCC + GND)/2
8	FGD	I	Connect a capacitor between this pin and pin3 to reduce high-frequency gain.
9	FS3	I	The high-frequency gain of the focus servo is switched through FS3 ON and OFF.
10	FLB	I	Time constant external pin to raise the low bandwidth of the focus servo.
11	FEO	O	Focus drive output.
12	FE-	I	Inverse input for focus amplifier.
13	SRCH	I	Time constant external pin for formation of focus search waveform.
14	TGU	I	Time constant external pin for the selection of tracking high band gain.
15	TG2	I	Time constant external pin for the selection of tracking high band gain.
16	AVCC	--	Power supply
17	TAO	O	Tracking drive output.
18	TA-	I	Inverse input pin for tracking amplifier.
19	SL+	I	Non- inverse input pin for feed amplifier.
20	SLO	O	Feed drive output.
21	SL-	I	Inverse input pin for feed amplifier.
22	F SET	I	Pin to set peak frequency of focus tracking phase compensation and fo of CLV LPF.
23	I SET	I	Current is input to determine focus search, track jump, and feed kick height.
24	S STOP	I	Limit SW ON/OFF signal detection pin for disc inner periphery detection.
25	AVEE	--	– 5V
26	DIRC	I	Pin for one-track jump. Contains 47kΩpull-up resistor.
27	LOCK	I	At "L" feed runaway prevention circuit operate. Contains a 47kΩpull-up resistor.
28	CLK	I	Serial data transfer clock input from CPU.
29	XLT	I	Latch input from CPU.
30	DATA	I	Serial data input from CPU.
31	XRST	I	Reset input pin, reset at "L".
32	C.OUT	O	Track number count signal output.
33	SENS	O	Outputs FZC, AS, TZC and S STOP through command from CPU.
34	DGND	--	GND
35	MIRR	O	MIRR comparator output pin.
36	DFCT	O	Output pin of DEFECT comparator.
37	ASY	I	Input pin of auto asymmetry control.
38	EFM	O	Output pin of EFM comparator.
39	FOK	O	Output pin of FOK comparator.
40	CC1	I	Output pin of DEFECT bottom hold.
41	CC2	O	Input pin for the capacitance coupled output of DEFECT bottom hold.
42	DVCC	--	– 5V
43	CB	I	Connection pin of DEFECT bottom hold capacitor.
44	CP	I	Connecting pin of MIRR hold condenser. Non-inverted input pin of MIRR comparator.
45	RFI	I	Input pin with coupling capacitor where RF summing amplifier output is connected.
46	RFO	O	Output pin of RF summing amplifier and check point of eye pattern.
47	DVEE	--	– 5V
48	TZC	I	Input pin of tracking zero-cross comparator.

■ CXA1571S(IC702) : RF AMP FOR COMPACT DISC

1.Outline

The CXA1571S IC for compact disc 3-point method optical pickup output has following functions.
·RF amplifier · Focus error amp · Tracking error · APC circuit

2. Internal Block Diagram

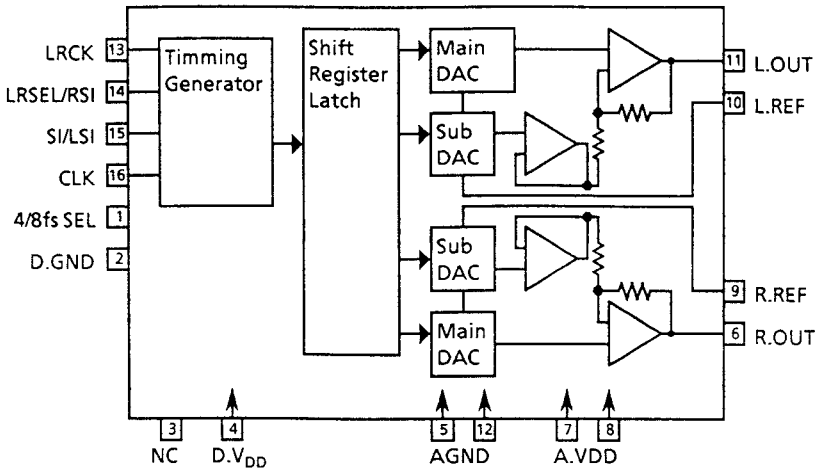


3. Terminal Functions

Pin No.	Symbol	I/O	Function
2	LD	O	APC amp output pin.
3	PD	I	APC amp input pin.
4 5	PD1 PD2	I I	RF I-V amp inverted input pins; they are connected to the A + C and B + D pins of the photodiode and receive current input.
7 8	F-IN E-IN	I I	F and E I-V amp inverted input pin; they are connected to Photodiodes F and E and receive current input.
9	VR	O	(VCC + VEE) / 2 DC voltage output pin.
10	VC	I	VC intermediate voltage input pin; when dual ±5V power supplies are used, this pin is connected to GND; for a single +5V power supply, it is connected to the VR pin.
13	EO	O	Monitor output pin for I-V amp E.
14	EI	I	Gain adjustment pin for I-V amp E.
15	TE	O	Tracking error amp output pin.
16	FE-BIAS	I	Bias adjustment pin for the mon-inverted side of the focus error amp.
17	FE	O	Focus error amp output pin.
18	RF O	O	RF amp output pin.
19	RF I	I	RF inverted side input pin; the resister connected between this pin and the RFO pin determines the gain of theRF amp.
20	LD-ON	I	This pin switches the APC amp on / off: on for VCC, off for ground.

■ UPD6376CX(IC751) : D / A Converter

1. Internal Block Diagram



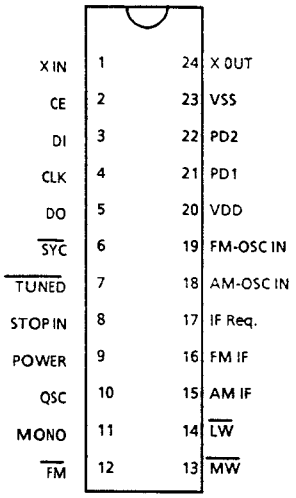
2. Terminal Functions

Pin No.	Symbol	I/O	Function
1	4/8FS SEL	I	"L" or "OPEN" : Left channel and Right channel data is input to the pin 15 "H" : Left channel data is input to the pin 15. Right channel data is input to the pin14.
2	D.GND	--	Ground terminal for the logic section.
3	NC	--	Non connection
4	D.VDD	--	Power supply for the logic section.
5	A.GND	--	Analog ground
6	R.OUT	O	Output terminal for the Right channel signal.
7	A.VDD	--	Power supply for the Analog section.
8	A.VDD	--	Power supply for the Analog section.
9	R.REF	I	Reference voltage terminal
10	L.REF	I	Reference voltage terminal
11	L.OUT	O	Output terminal for the Left channel signal.
12	A.GND	--	Analog ground
13	LRCK/WDCK	I	Pin 1 = "L" or "OPEN" : Input terminal of the signal which indicates which channel is input. Pin 1 = "H" : Word clock input for the input data.
14	LRSEL/RSI	I	Pin 1 = "L" or "OPEN" : When this terminal is "H" , input "L" of the LRCK indicates that Left channel is input to the pin 15. When this terminal is "L" , input "H" of the LRCK indicates that Left channel is input to the pin 15. Pin 1 = "H" : Input terminal for the Right channel signal.
15	SI/LSI	I	Pin 1 = "L"or OPEN : Input terminal for the Right and Left channels Pin 1 = "H": Serial data input terminal for the Left channel signal.
16	CLK	I	Clock input for reading the serial data.

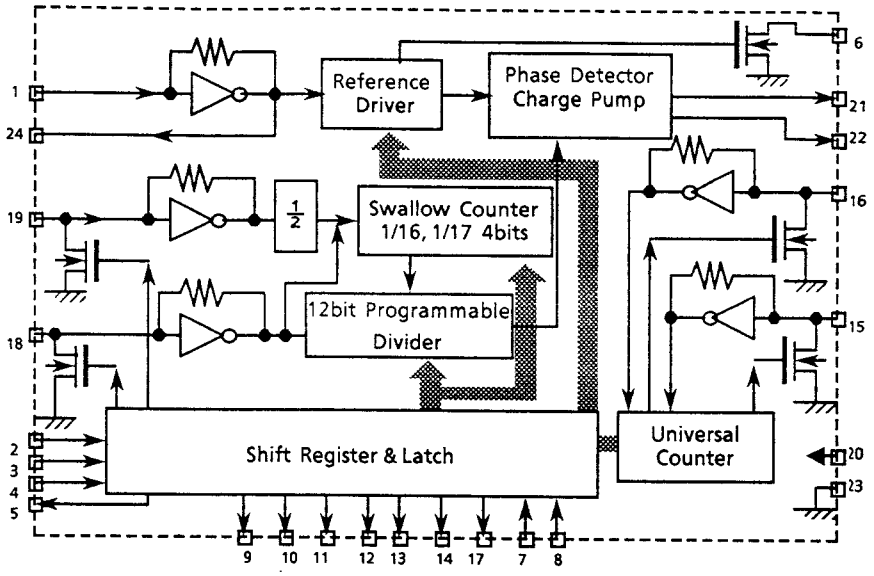
■ LC7218 (IC102) : PLL Synthesizer

1. The main function
   (1) It makes the local oscillation frequency by the control data from IC801.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC801.

2. Terminal Layout



3. Internal Block Diagram



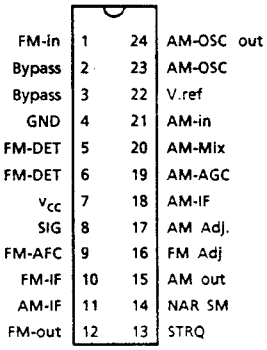
4. Terminal Functions

Pin No.	Symbol	I/O	Function
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC801).
4	CLK	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	--	Not used.
7	TUNED	I	Receive the tuned signal
8	STOP IN	--	Connected to ground .
9	POWER	O	Not used.
10	QSC	O	ON mode with " H " and OFF mode with " L ". (Not used)
11	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	FM	O	It is "L" on MW mode.
13	MW	O	It is "L" on FM mode.
14	LW	O	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF (Not used)
16	FM-IF	I	Universal counter input for FM-IF (Not used)
17	IF Req.	O	Output the "IF-signal request" when the pin-7 (TUNED) goes to "H". (Not used)
18	AM OSC IN	I	Input the local oscillator signal of AM.
19	FM OSC IN	I	Input the local oscillator signal of FM.
20	VDD	--	This is a terminal of power supply.
21	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	O	Not used.
23	VSS	--	Power supply. (Connected to ground)

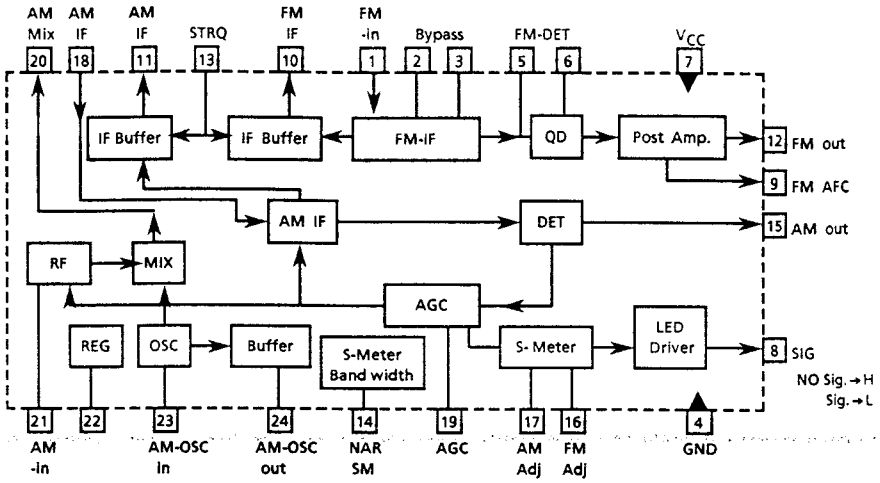
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions
   (1) Amplify and detect of FM intermodulation frequencies.
   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Terminal Layout


FM-in 1 24 AM-OSC out
Bypass 2 23 AM-OSC
Bypass 3 22 V.ref
GND 4 21 AM-in
FM-DET 5 20 AM-Mix
FM-DET 6 19 AM-AGC
Vcc 7 18 AM-IF
SIG 8 17 AM Adj.
FM-AFC 9 16 FM Adj
FM-IF 10 15 AM out
AM-IF 11 14 NAR SM
FM-out 12 13 STRQ

3. Block Diagram



4. Pin Function Description

Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2,3	Bypass	–	Bypass of FM IF Amp.
4	GND	–	This is the device ground terminal.
5,6	FM DET	–	FM detect transformer.
7	V_{CC}	–	This is the power supply terminal.
8	SIG	O	Whe the set is tunning ,this terminal becomes "L".
9	FM AFC	O	This is an output terminal of voltage for FM - AFC(Auto frequency control).
10	FM IF	O	When the signal of IF REQ of IC102(LC7218) appear, the signal of FM IF output.
11	AM IF	O	When the signal of IF REQ of IC102(LC7218) appear, the signal of AM IF output.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM	–	Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj	–	For adjust the stop level (or mute level) of FM.
17	AM Adj	–	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	–	Register value between pin9 and pin22 desides the frequency width of the input signal.
23	AM-OSC	–	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ LA3401(IC105) : FM MPX Decorder

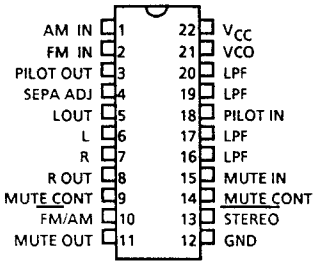
1. The main function

(1) Decord the FM Multiplex Signal (Stereo signal).

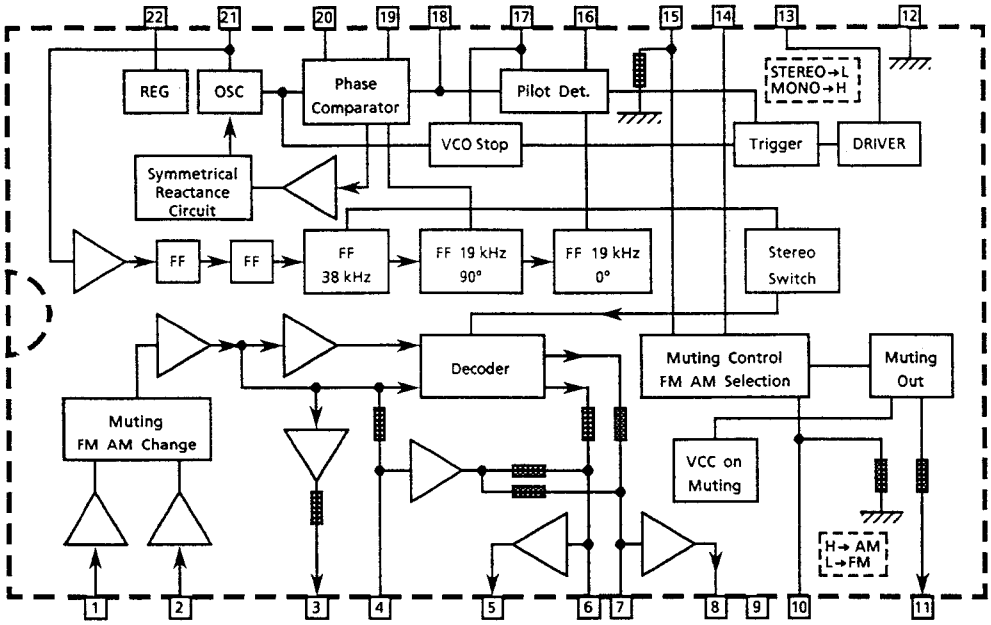
(2) When receiving FM Stereo Signal, it outputs the signal for indicator.

(3) AM/FM Audio Amplifier.

2. Terminal Layout



3. Internal Block Diagram

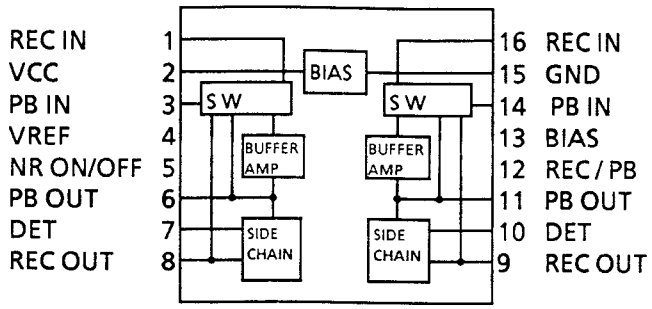


4. Terminal Functions

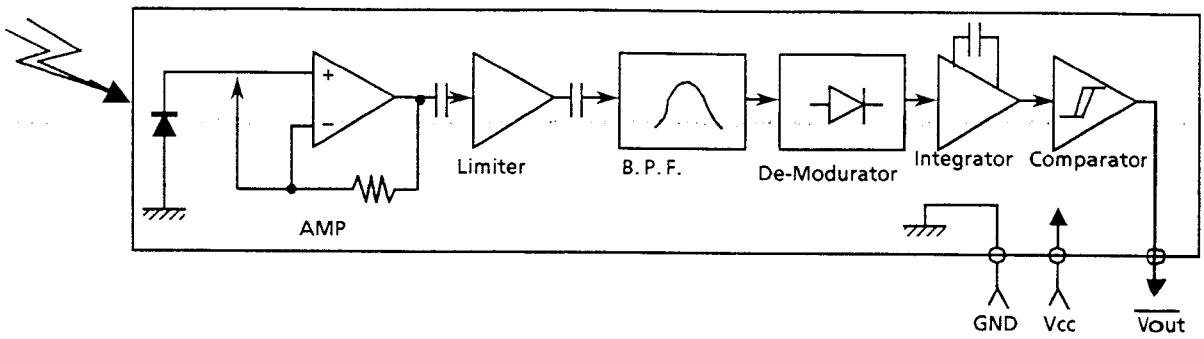
Pin No.	Symbol	I/O	Function
1	AM IN	I	This is an input terminal for AM detection signal.
2	FM IN	I	This is an input terminal for FM detection signal.
3	PILOT OUT	O	Output of MPX pilot signal (Connected to Pin18 via a capacitor).
4	SEPA. ADJ.	--	Separation adjustment.
5	L. OUT	O	Left channel signal output.
6	L	O	Input terminal of the Left channel Post AMP.
7	R	O	Input terminal of the right channel Post AMP.
8	R OUT	O	Right channel signal output
9	MUTE CONT	--	The mute time is controlled by the connected capacitor when turning the power switch on.
10	FM/AM	I	Change over the FM/AM input. "H" : AM, "L" : FM
11	MUTE OUT	--	Not use
12	GND	--	Ground terminal.
13	STEREO	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	MUTE CONT	--	The mute time is controlled by the connected capacitor when changing over the FM/AM .
15	MUTE IN	I	Mute signal input. "H" : Mute on, "L" : Mute off.
16	LPF	--	Low pass filter of pilot detector.
17	LPF	--	While this terminal goes to "H", the VCO stop.
18	PILOT IN	I	PLL input.
19	LPF	--	Low-pass filter of PLL.
20	LPF	--	Low-pass filter of PLL.
21	VCO	I	Voltage controlled oscillator terminal.
22	V_{CC}	--	Power supply.

Internal Block Diagram of Other ICs

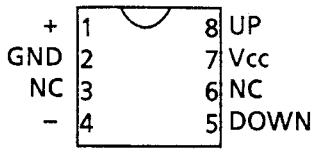
■ HA12136A (IC381) : Noise Reduction Amplifier



■ SPS-420-1 (IC804) : Remote control Module IC



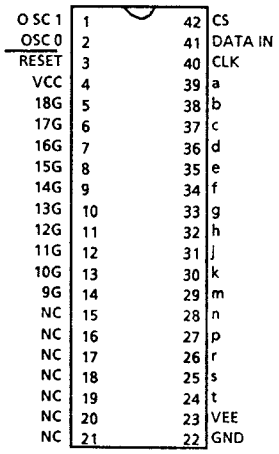
■ LB1639-CV (IC489) : Motor Driver



IN 1 (pin1)	IN 2 (pin4)	OUT 1 (pin8)	OUT 2 (pin5)	MOTOR
H	L	H	L	CLOCKWISE
L	H	L	H	COUNTER-CLOCKWISE
H	H	OFF	OFF	WAITING
L	L	OFF	OFF	WAITING

■ MSC7112-01SS (IC 802): FL Driver IC

1. Terminal Layout

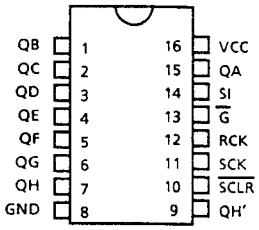


2. Terminal Functions

Pin No.	Symbol	I/O	Function
1 2	OCS 1 OSC 0	I O	Oscillation circuit is composed by connecting the resistor and capacitor.
3	RESET	I	Reset input for internal logic at turning the power on.
4	V_{DD}	--	Power supply
5~14	18G~9G	O	FL grid drive signal
15~21	NC	--	Non connection
22	V_{SS}	--	GND
23	V_{EE}	--	– 27V
24~39	t~a	O	FL anode drive signal
40	CLK	I	System clock for shift register
41	DATA IN	I	Indication data input
42	CS	I	Chip select

■ TC74HC595AP(IC909) : 8 Bit Shift Register

1. Terminal Layout

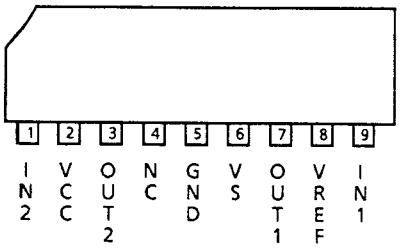


2. Function Table

Inputs					Functions
SI	SCK	SCLR	RCK	G	
X	X	X	X	H	Output (QA-QH) disable.
X	X	X	X	L	Output (QA-QH) enable.
X	X	L	X	X	Shift register is cleared.
L	↑	H	X	X	Condition of shift register in initial stage is "L". In the other stages, data from the former stage is stored.
H	↑	H	X	X	Condition of shift register in initial stage is "H". In the other stages, data from the former stage is stored.
X	↓	H	X	X	Shift register does not change.
X	X	X	↑	X	Shift register data is stored in the storage register.
X	X	X	↓	X	Shift register does not change.

X : Don't care

■ TA8409S (IC931~934) : DC motor driver



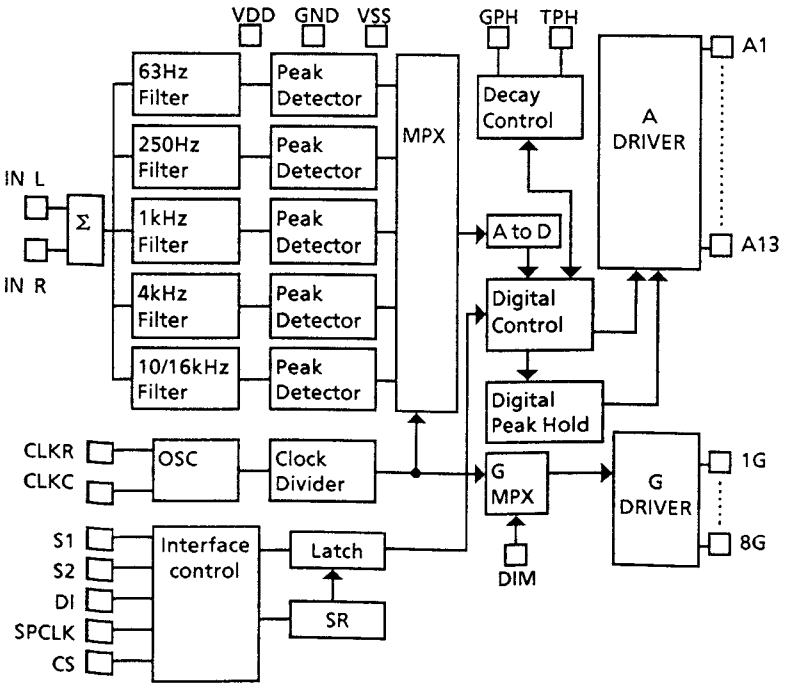
Function

Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	∞	∞	STOP
1	0	H	L	OPEN
0	1	L	H	CLOSE
1	1	L	L	BRAKE

∞ : High impedance

■ XR1095CP (IC803) : Display Driver

1. Internal Block Diagram



2. Terminal Functions

Pin No.	Symbol	Function
1~5, 9~16	T1~T13	FL anode control
17	CS	Chip select
18	SPCLK	Clock for data transmission
19	DI	Serial data input
20,21	S1, S2	Chip select (connected to GND)
22	DIM	Connected to ground
23	VSS	Power supply(−)
24	GND	Ground
25	R IN	Audio signal input
26	L IN	Audio signal input
27 28	GPH TPH	The resistor and capacitor connected to this pin determine the peak hold time.
31~38	1G~8G	FL grid control
40	CLKR	A resistor is connected for oscillation
41	CLKC	A capacitor is connected for oscillation
42	VDD	Power supply (+)

Internal Connection of the FL Display Tube

■ ELU0001-142

TERMINAL CONNECTION

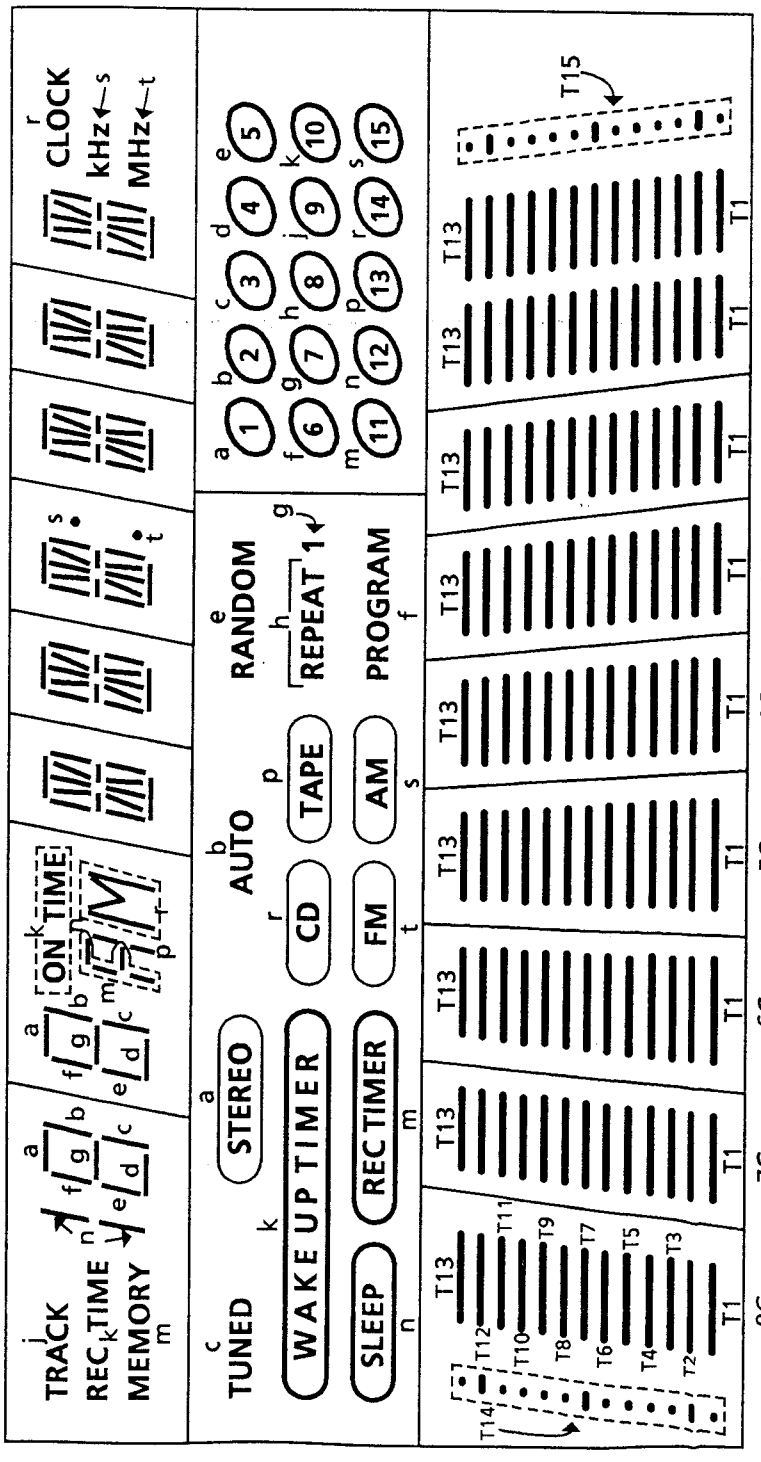
(UPPER)

TERMINAL NO.	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35
ELECTRODE	F2	F2	F2	NP	P a	P b	NP	P c	P d	P e	P f	P g	P h	P j	P k	P m	P n	P p	P r	P s	P t	18G	17G	16G	15G	14G	13G	12G	11G	10G	9G	F2	F2	F2

(LOWER)

TERMINAL NO.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
ELECTRODE	P T1	P T2	P T3	P T4	P T5	P T6	P T7	P T8	P T9	P T10	P T11	P T12	P T13	NP	F2	F2	F2	F1	F1	F1	NP	P T14	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NP	P T15

Notes F : Filament G : Grid P : Anode NP : No PIN



Disassembly Procedures

■ Top cover removal
1. Remove 4 screws on the rear side and 2 screws on both sides of the cover.
2. Remove the cover.

■ Rear panel removal
1. Remove the top cover.
2. Remove the 3 screws Ⓐ.
3. Remove the 9 screws Ⓑ.
4. Remove the rear panel.

■ Tuner PCB (ENA-135-1) removal
1. Remove the top cover.
2. Remove the rear panel (definitely).
3. Remove the screw Ⓒ.
4. Remove the connectors JB103, J101 on the tuner PCB to remove the tuner PCB.

■ Cassette PCB (ENJ-072-2) removal
1. Remove the top cover.
2. Remove the rear panel.
3. Remove the tuner PCB.
4. Remove the 2 screws Ⓓ.
5. Disconnect the connectors P201, 202, 203, 204 and J205.
   J205 is connected to FW205.

■ CD PCB(ENN-341-1) with mechanism assembly removal.
1. Remove the top cover.
2. Remove the rear panel.
3. Remove the tuner PCB.
4. Disconnect the wires J205, J851, J911, J601 and P701.
5. Remove the 3 screws Ⓕ (Fig 4).
6. Remove the screw Ⓖ on the CD assembly base.
7. Take them out of the shassis, lifting them a little.

■ Front panel assembly removal
1. Remove the top cover.
2. Remove the rear panel.
3. Remove the tuner and cassette PCBs.
4. Remove the CD PCB with the mechanism assembly.
5. Remove the 3 screws Ⓔ AND Ⓔ' on the bottom of the front panel.
7. Remove the assembly, disconnecting connectors J512, 531, 901 and 902 (Fig 5).

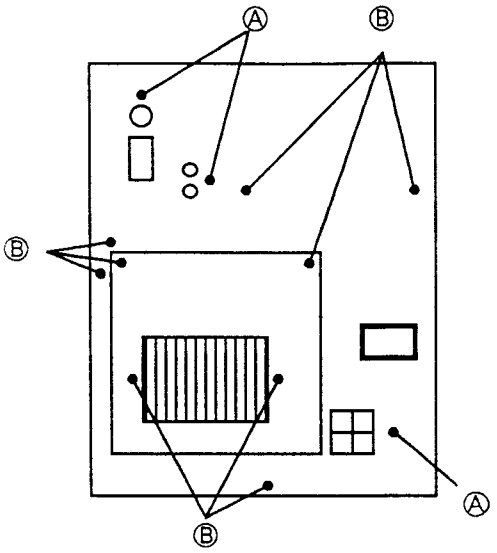


Fig 1 Rear view

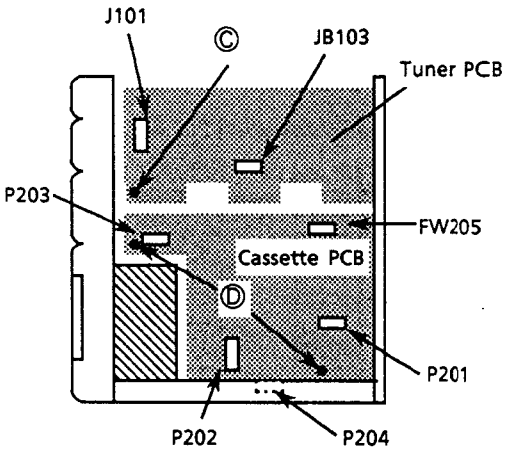


Fig 2 Right side view

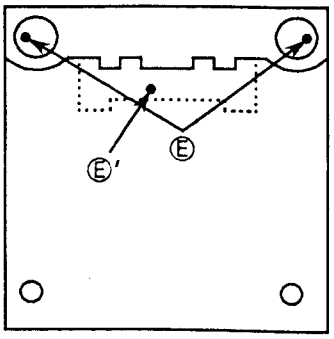


Fig 3 Bottom view

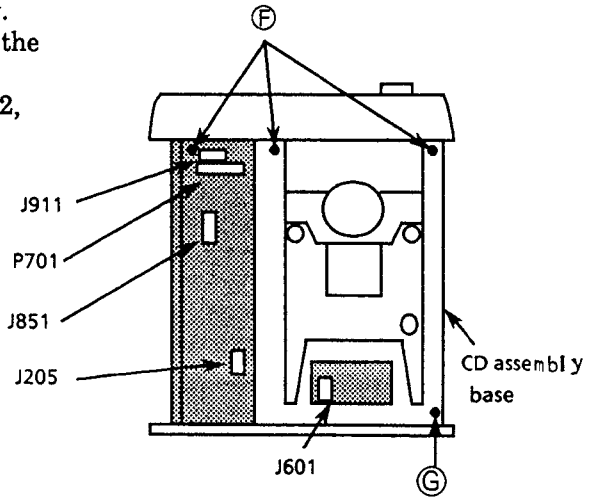


Fig 4 Top view

■ CD mechanism assembly removal

1. Remove the cd PCB with mechanism assembly.
2. Disconnect the connectors P602, P603.
3. Remove the 3 screws Ⓗ.
4. Disconnect the connector P601 under the mechanism, lifting the mechanism up.
5. Turn the screw Ⓘ located under the mechanism to remove the tray out of the loading mechanism.
6. Remove the screw Ⓙ to rmove the tray.
7. Remove the 2 screws Ⓚ to remove the clamp assembly.
8. Remove the screw Ⓛ located under the tray to take the cd mechanism assembly out.

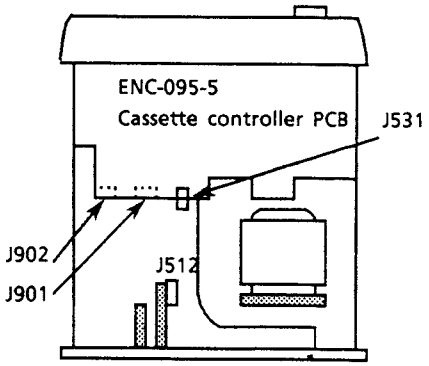


Fig 5

■ Cassette mechanism with the PCB (ENC-095-5) removal

1. Remove the top cover.
2. Remove the front panel assembly.
3. Disconnect the connectors P981, JB851 and J991.
4. Remove the 8 screws Ⓜ and Ⓝ.
5. Open the cassette doors to remove the mechanism.

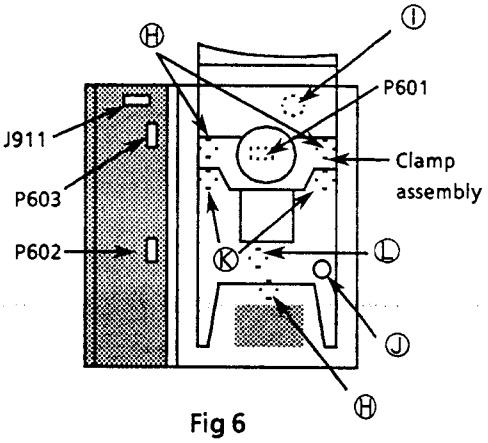


Fig 6

■ Cassette holder removal

1. Remove the front panel assembly.
2. Remove the cassette mechanism assembly.
3. Remove the spring hooked on the holder (Fig 7).
4. Remove the damper (Fig 9).
5. Remove the holder.

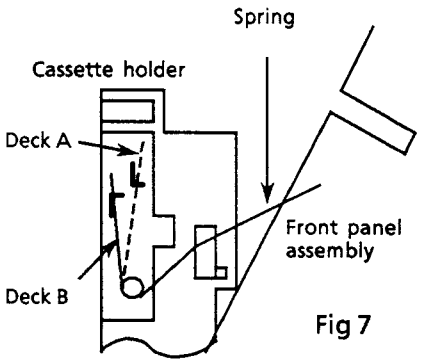
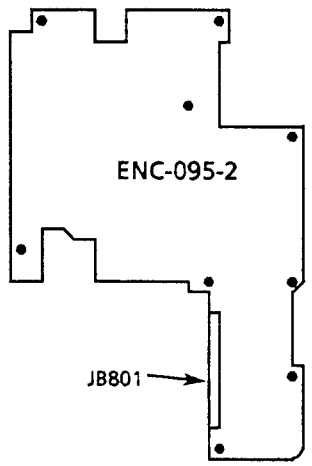


Fig 7



JA801 and JB801 are connected without wire.

Fig 8

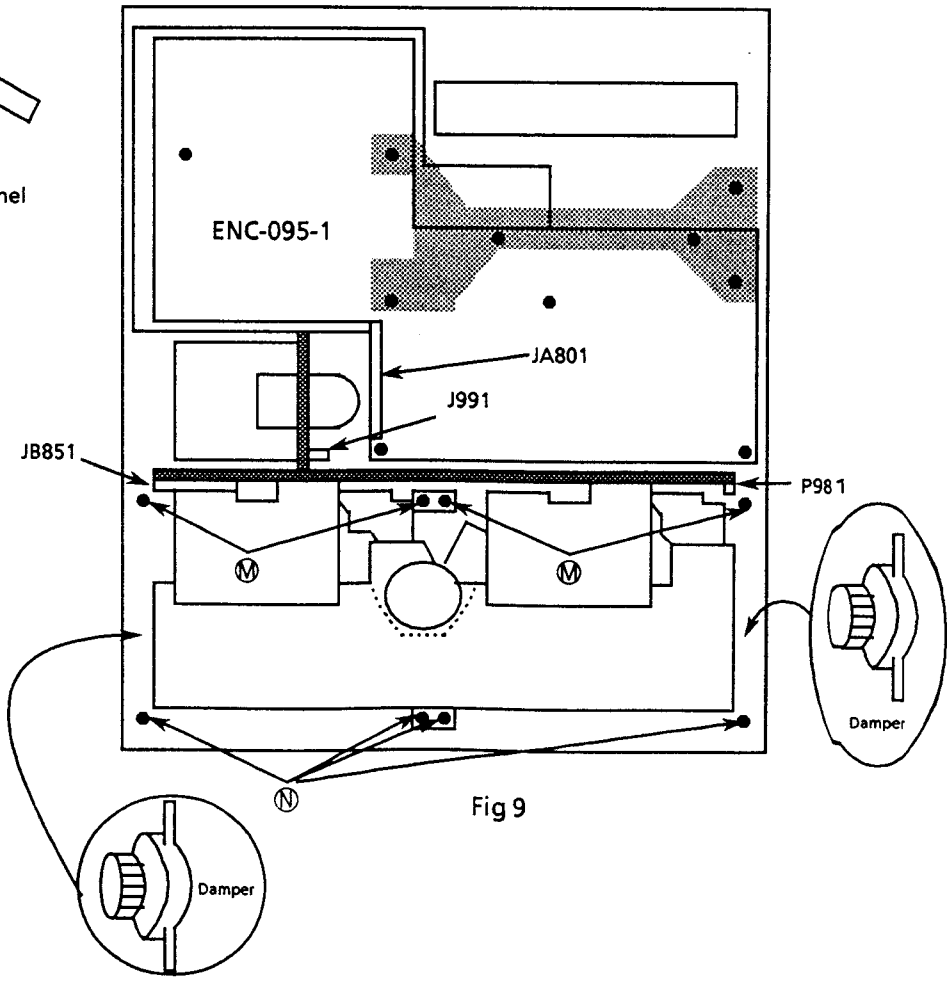


Fig 9

Disassemble of the cd mechanism assembly

■ Pickup removal

1. Remove the cd mechanism assembly.
2. Release the shaft to remove the pickup (Fig 10).

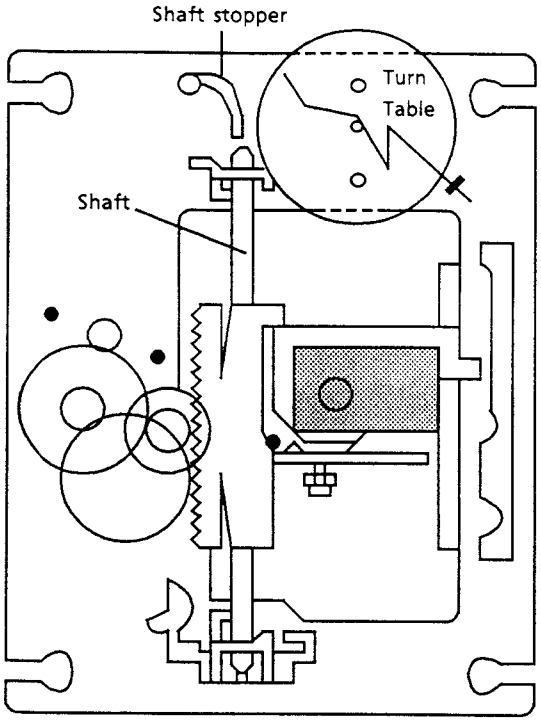


Fig 10 CD mechanism assembly

■ Spindle motor removal

1. Remove the cd mechanism assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the spindle and feed motor P.C. Board and unsolder it.

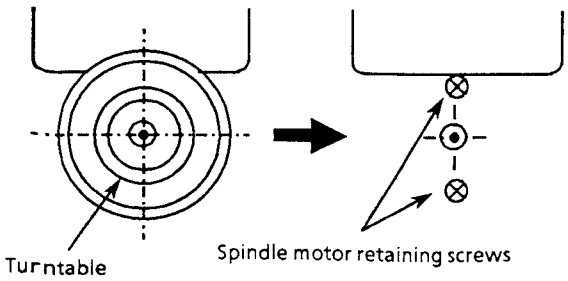


Fig 11

■ Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the turntable is exactly 19.4±0.1mm.

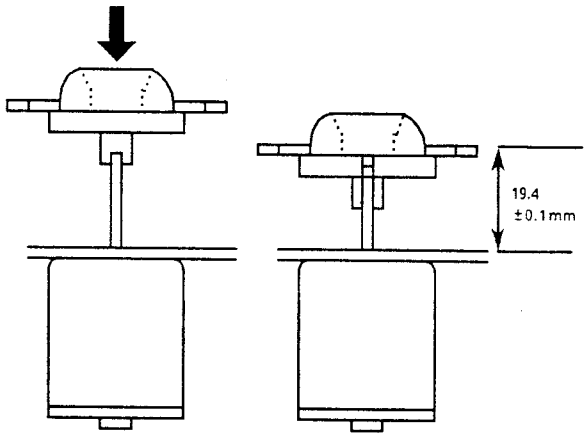


Fig 12

4. After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 13 on the left below).

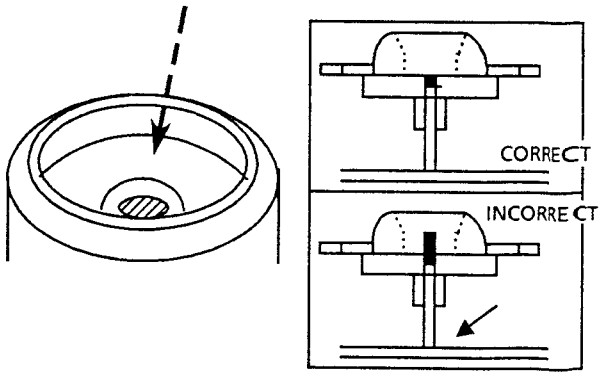


Fig 13

5. Use "LOCKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in fig 13 on the right).

Disassemble of the cassette mechanism

■ Cassette controller PCB (ENC-095-5) removal

1. Remove the cassette mechanism assembly with the PCB.
2. Release the 8 hooks to remove the controller PCB (Fig 14).

■ Head assembly removal

1. Remove the cassette mechanism assembly.
2. Unsolder the flexible wire (Fig 16).
3. Remove the 2 screws Ⓤ fixing the head assembly (Fig 21).

※ **Note**
The direction of the head is changed with the head gear. When servicing, install the head gear according to the direction of the head. Refer to fig 15.

■ Pinch roller arm assembly removal

1. Release the return spring (Fig 21).
2. Release the hook holding the pinch roller arm assembly to remove the assembly (Fig 16).

■ Reel motor PCB removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette controller PCB.
3. Remove the screw Ⓟ fixing the reel motor PCB.
4. Unsolder the reel motor PCB.
5. Remove the PCB.
   Be careful so that stress is not added to the terminals of the motor.

■ Capstan motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCBs.
3. Remove the 4 screws Ⓠ fixing the bracket (Fig 17).
4. Remove the motor with the bracket,
5. Remove the 2 screws fixing the motor and the bracket.

■ Reel motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the FR arm assembly (Fig 21).
4. Remove the screw Ⓣ fixing the motor (Fig 21).
5. Remove the hooks fixing the motor to remove the motor.

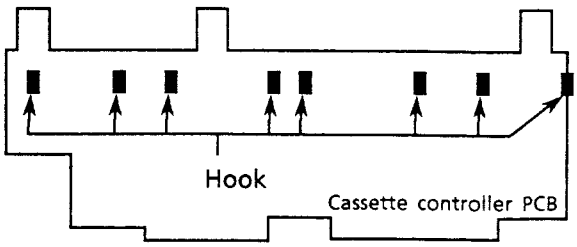


Fig 14

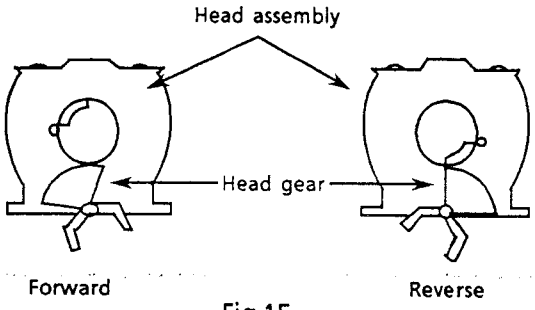


Fig 15

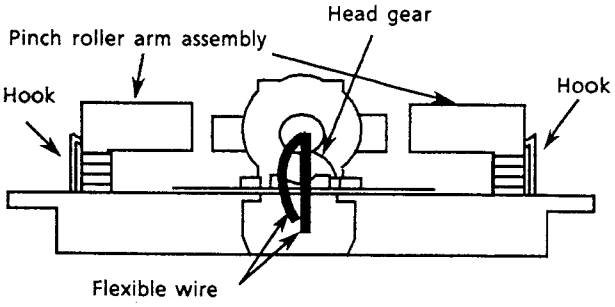


Fig 16

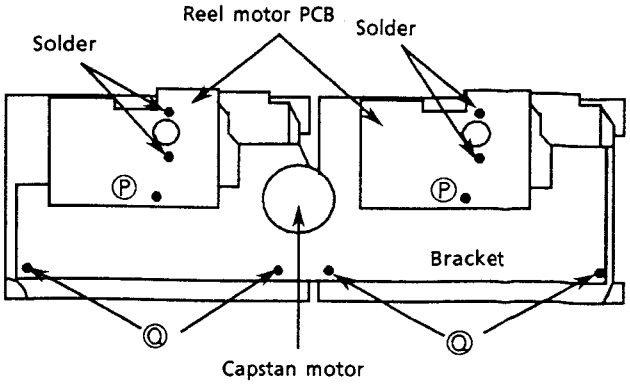


Fig 17

■ Fly wheel removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the screws Ⓠ and the bracket (Fig 17).

※ **To install the bracket**

1. Install the belt of mechanism A as shown in fig 18.
2. Assemble the mechanism A and the bracket with the capstan motor.
3. Hang the belt of the mechanism A to the motor pully using a tweezers and the like.
4. Hang the part Ⓡ to the Idler pully.
5. Install the mechanism B installed the belt as shown in fig 20 to the bracket which is assembled with the mechanism A.
6. Hang the part Ⓢ to the motor pully using a tweezers and the like.

■ Cam switch PCB removal

1. Remove the fly wheel.
2. Remove the hooks fixing the PCB to remove the cam switch.
   When assembling the cam switch, install it so that the part Ⓥ meets the part Ⓦ (Fig 22).

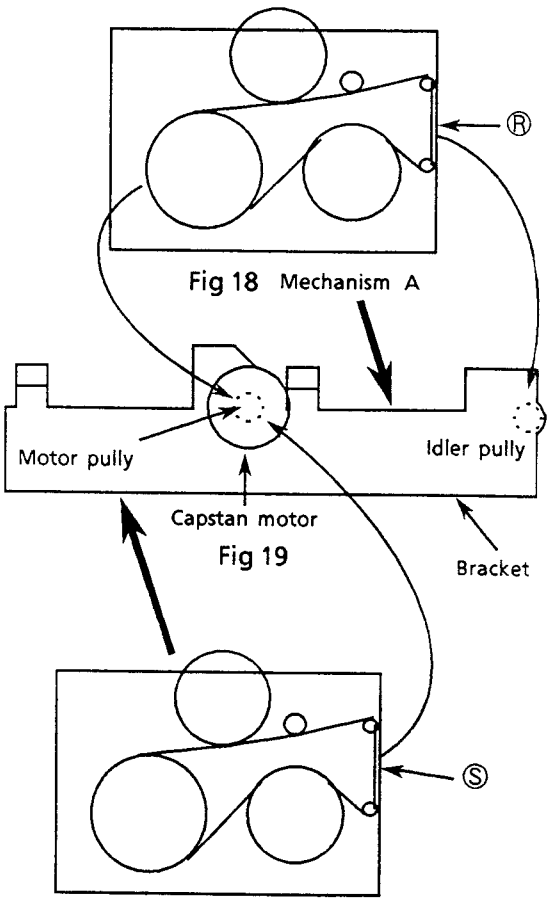
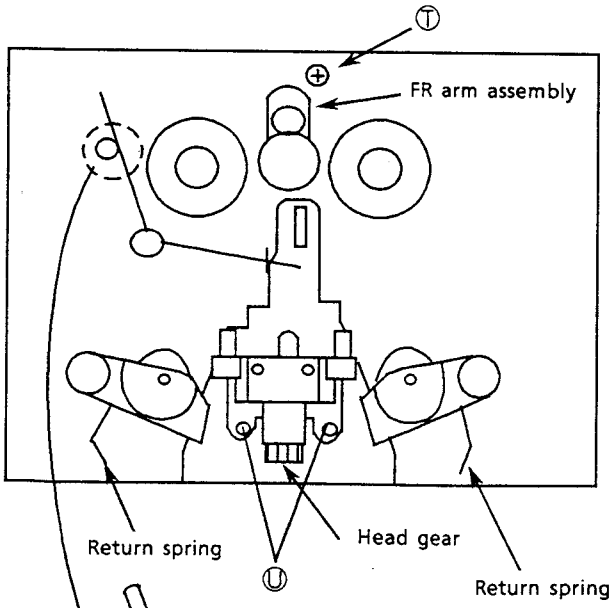


Fig 18 Mechanism A

Fig 19

Fig 20 Mechanism B



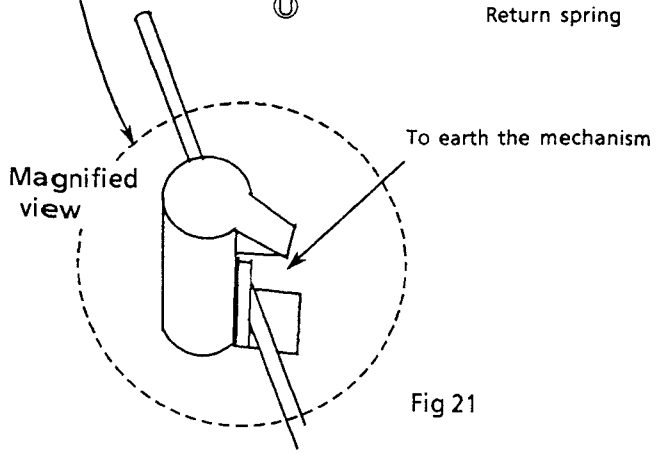


Fig 21

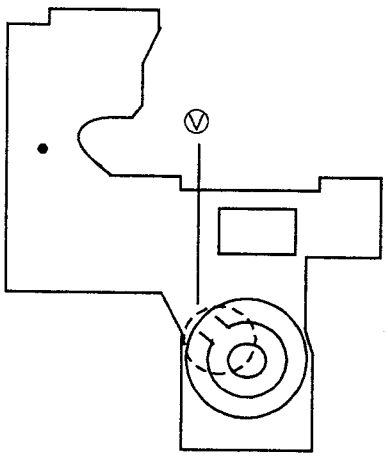
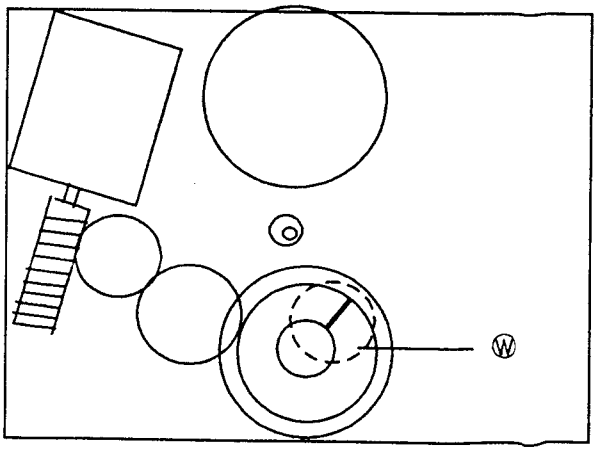


Fig 22

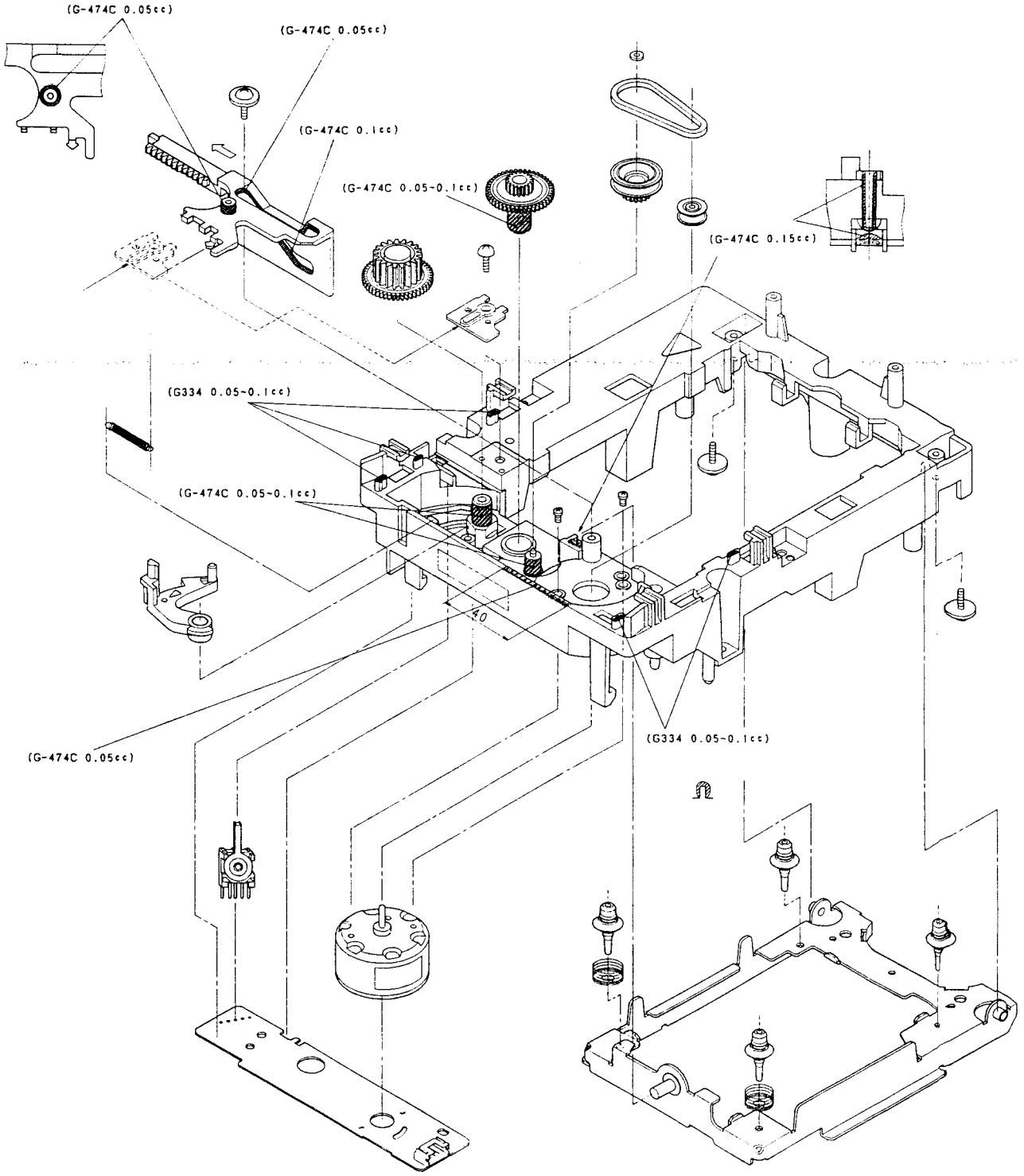


Application Points for Grease

Grease used

G-334 (Shin-Etsu Chemical Co., Ltd.)

G-474C (Kanto Chemical Co., Ltd.)



Grease part numbers

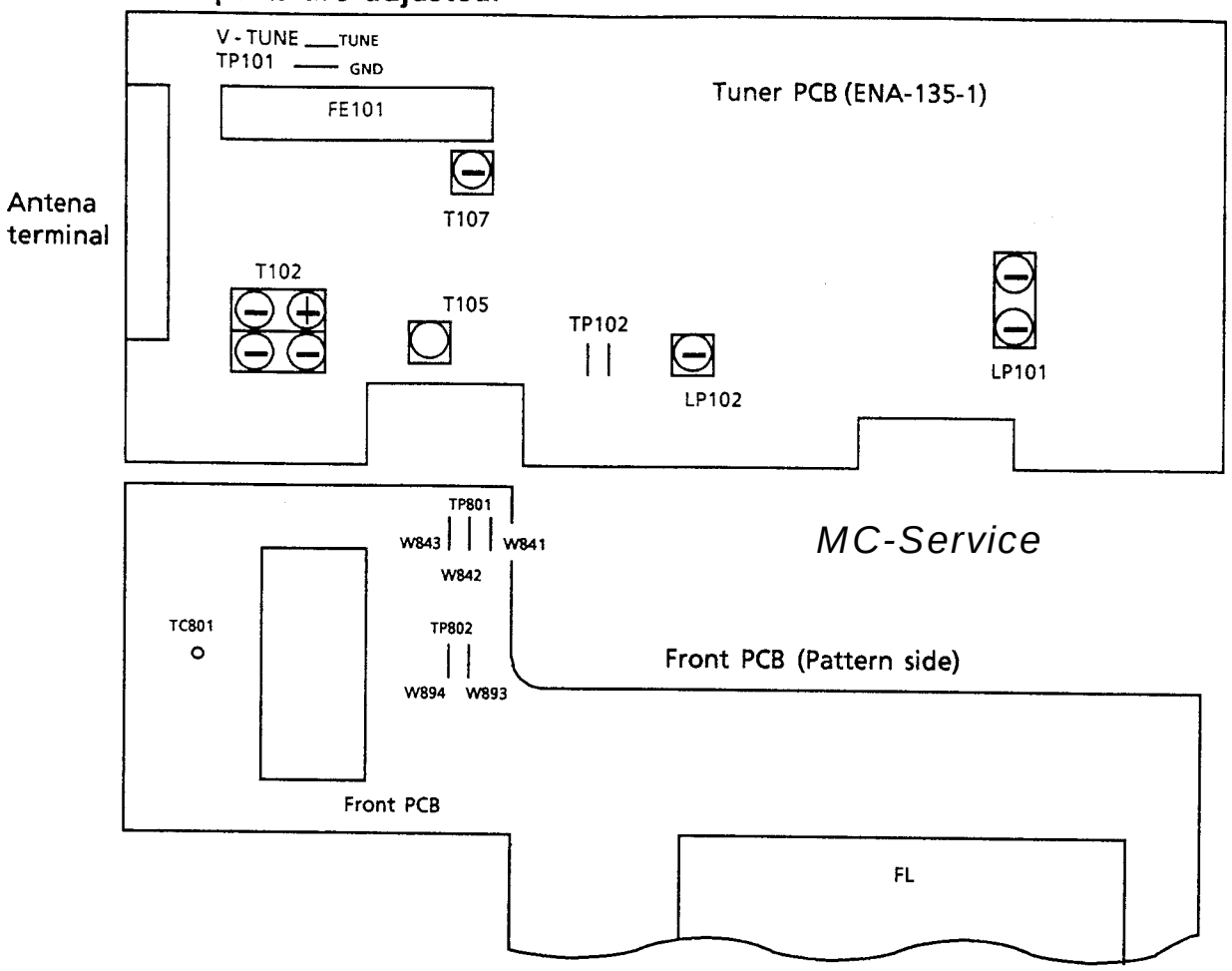
G-334: EBS0006-009B

G-474C: EBS0006-019B

Adjustment Procedures

■ Tuner section

Don't adjust the semi-fixed resistors and coils except below mentioned. If you have them out of the values previously adjusted by mistake, replace them. Service parts are adjusted.



(1) Tuning voltage

Confirm the voltages in the table below at TP101. If the voltages are not satisfied, replace T102 for AM or FE101 for FM.

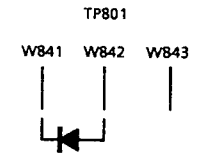
Frequency	FM (V)			MW (V)				LW (V)		
	64.0MHz	87.5MHz	108MHz	522KHz	530KHz	1629KHz	1710KHz	144kHz	290kHz	353kHz
East Europe	1.7±0.7	—	8.0±2.0	0.5~1.0	—	7.5~8.5	—	0.5~1.0	—	6.5~9.0
U.S.A., Canada	—	1.6±1.0	8.0±2.0	—	0.5~1.0	—	8.0~9.0	—	—	—
the U.K., Continental Europe	—	1.6±1.0	8.0±2.0	0.5~1.0	—	7.5~8.5	—	0.5~1.0	—	6.5~9.0
Italy	—	1.6±1.0	8.0±2.0	0.5~1.0	—	7.5~8.5	—	0.5~1.0	5.0~7.5	—
Australia	—	1.6±1.0	8.0±2.0	0.5~1.0	—	7.5~8.5	—	—	—	—

(2) FM detector coil

Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T105 so that the voltage at TP102 becomes 0±1.5mV.

(3) Frequency of the clock

1. After connecting a diode between W841 and W842 as shown right, connect ac power cord into ac outlet.
2. Confirm that the display is off and remove the diode.
3. Connect a frequency counter between W843 and W842.
4. Adjust TC801 so that the frequency becomes 34952.5±0.15Hz.



Example 1SS133 1S2076
1SS119 1S2473

■ Deck section

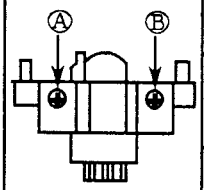
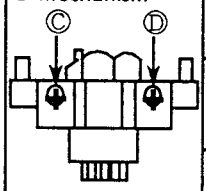
(1) Measuring instruments for Adjustment

1. Audio frequency signal generator (which can generate a 0dBs output with a 600Ω load at 50Hz to20kHz.)
2. Attenuator (600 - ohm impedance)
3. Electronic voltmeter
4. Standard tapes
   VTT-703L(head azimuth adjustment)
   VTT-712 (tape speed , wow & flutter)
   VTT-724 (Reference level)
   TMT-6247 (Music scan)
   TMT-6237 (Music scan)
5. Recording standard tapes
   TMT-7046 (Normal : UR) , AC-513 (CrO2 : SA)
6. 600-ohm resistor for attenuator matching
7. Wow & Flutter meter with frequency counter
8. Distortion meter with band-pass filter
9. Torque gauge : CTG - N (cassette type)
10. C-120 tape (for checking the tape running)

MC-Service

(2) Adjustment and repairing for the mechanism

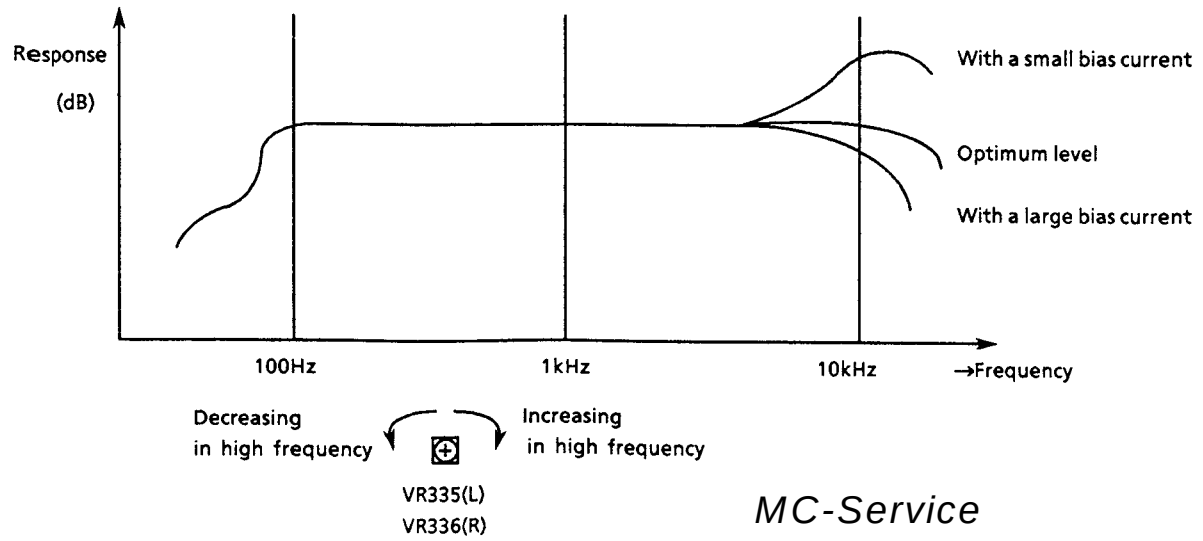
(Adjust and inspect the mechanism before adjusting the electronic circuit)

Item	Adjustment Method	Standard value	Remarks
Adjusting azimuth of Rec / Play head	1. Connect an electronic voltmeter to the speaker terminals. 2. Play VTT-703L		1) When the specified characteristic cannot be obtained because of head wear, cut wire, excessive magnetization, etc., replace the head and adjust the head azimuth. Also, perform the adjustment of the playback level, recording bias current, recording level, etc. 2) When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head to avoid coomplaints.
A mechanism 	3. Adjust screw Ⓐ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed.	Maximum	
	4. Adjust screw Ⓑ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed.	Maximum	
	5. After making the adjustment,apply screw lock to prevent screws Ⓐ and Ⓑ coming loose .		
B mechanism 	6. Adjust screw Ⓒ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed.	Maximum	
	7. Adjust screw Ⓓ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed.	Maximum	
	8. After making the adjustment, apply screw lock to prevent screws Ⓒ and Ⓓ coming loose .		
Playback torque	Measure the torque in the playback mode using the torque measurement cassette CTG-N.	26 ~ 62 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	Measure the torque in the fast forward mode by the above method.	80 ~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Rewind torque	Measure the torque in the rewind mode by the above method.	80 ~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Wow & Flutter	Play VTT-712 and connect the wow & flutter meter to the speaker terminals , to confirm its reading should be within 0.2% (WRMS).	Less than 0.2%	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.
Auto stop	Confirm that 'AUTO STOP' works at the end of the tape and doesn't work while tape is running.		

(3) Electrical Circuit Adjustments

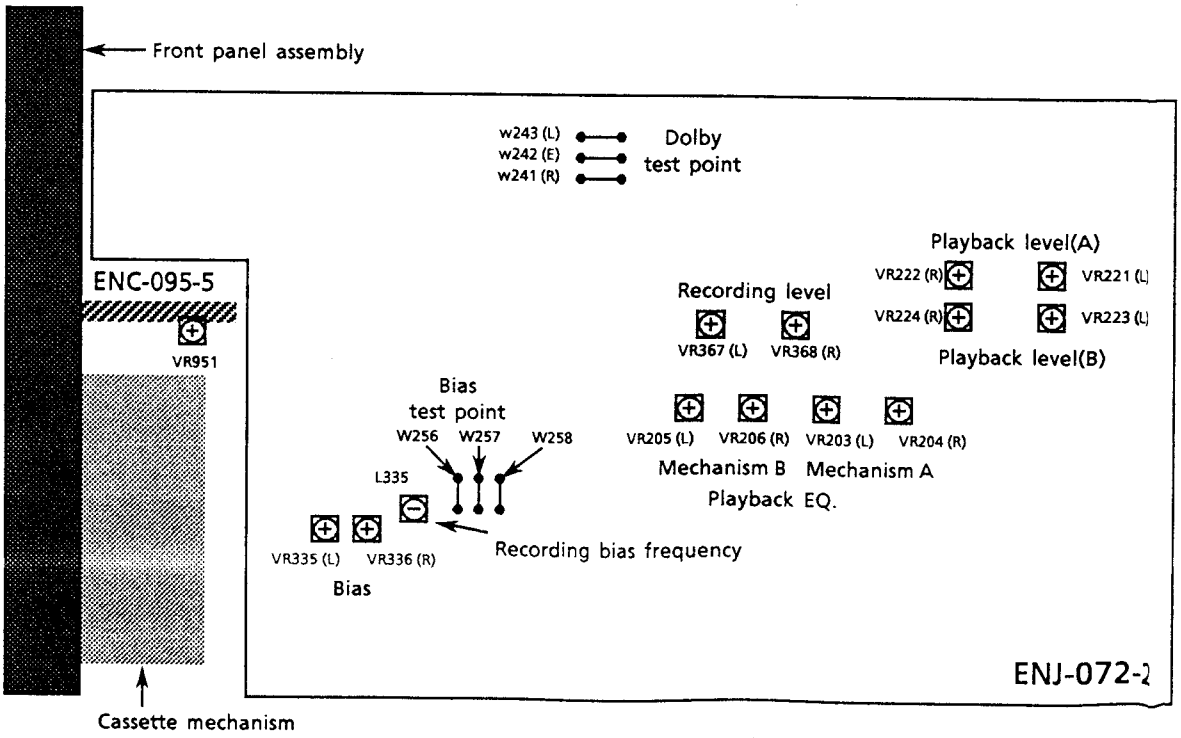
Make the following adjustments after adjusting the head azimuth.
In principle, the adjustments should be made in the following sequence.
Set the NR switch to OFF.

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Motor speed	1. Connect a frequency counter to the speaker terminals and play VTT-712	Semi-fixed resistor on the main PC Board		Connect a wow & flutter meter with a built-in frequency counter to the speaker terminals.
	2. Adjust the semi-fixed resistor VR951.	VR951	3,000 ±10 Hz	
Playback level	Connect an electronic voltmeter between W243 and W242 for left, or W241 and W242 for right. Play VTT-724 (1 kHz) to adjust the semi-fixed resistors.	A deck (L) VR221 (R) VR222 B deck (L) VR223 (R) VR224	410mV	The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
Playback frequency response	Play VTT-703L(10kHz, −10dB) and adjust semi-fixed resistors so that the voltage at W243 (L) and W241 (R) becomes 200mV respectively.	A VR203 (L) VR204 (R) B VR205 (L) VR206 (R)	200mV	
Recording bias frequency	Connect a frequency counter between W256 and W257(E), and adjust L335 during recording no signal with CrO_2.	L335	105 + 10kHz −5kHz	
Record / play frequency response	Supply 63Hz / 1kHz / 12.5kHz, 30mV signals to AUX terminal. Record them with the NR switch off. While playing back, adjust VR335 and VR 336 so that the variation of output of 100Hz / 10kHz to the output of 1kHz satisfies the standard value.	(L)VR335 (R)VR336	0 ± 3 dB for 63Hz 0 ± 2dB for 12.5kHz	1) The recording and playback frequencies of a cassette deck are adjusted by adjusting the bias. This is because the frequency response depends more on the bias current than with an open-reel deck. 2) Perform the adjustment with normal tape and confirm that the values are within the range for CrO_2 tape.

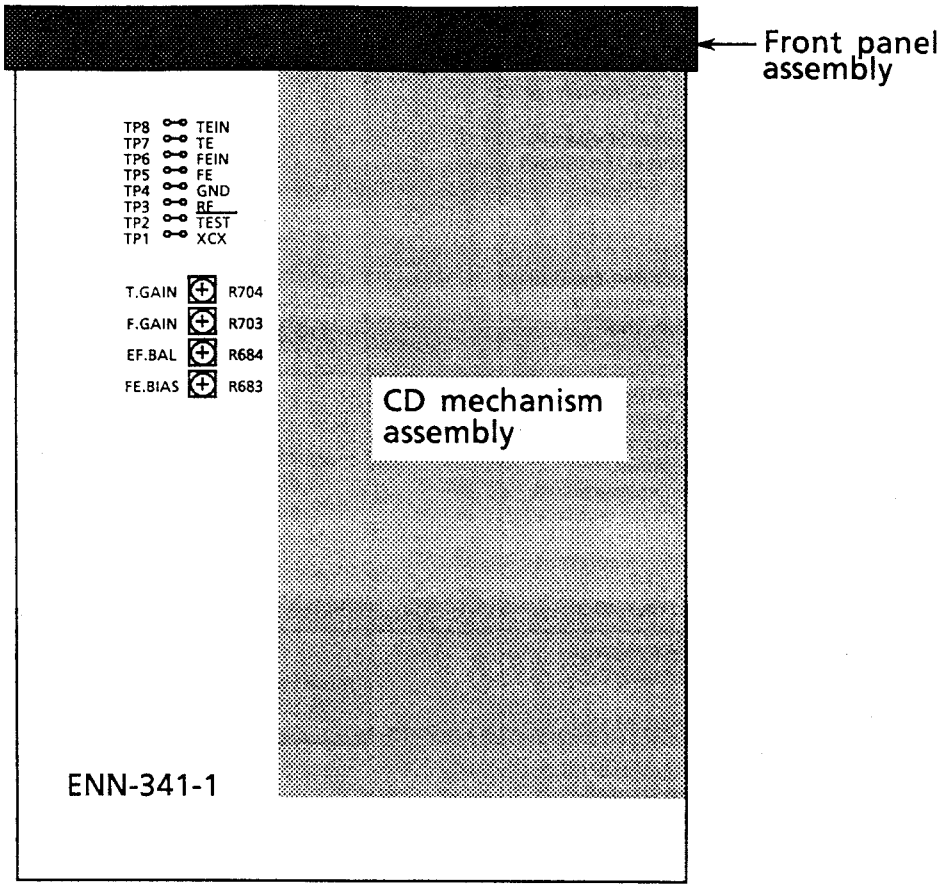


MC-Service

Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
Recording / Playback Sensitivity	1) Input a 1kHz (300mV) signal to AUX terminal and record it with a normal tape. 2) Connect an electric voltmeter between W243 and 242 for left, or W241 and 242 for right. Play the tape to adjust the semi-fixed resistors to obtain the output of 410mV.	(L) VR367 (R) VR368	410mV	Adjust with normal tape and make sure that the left / right level difference is 3.0dB or less with CrO_2 tape.
Recording / playback distortion	1) Input a 1 kHz (300mV) to AUX terminal and record it. 2) Play it back and check the speaker out with a distortion meter to make sure it is within the criterion.		less than 3% (Normal CrO_2)	Perform after the record / play frequency response and recording /playback sencitivity adjustments.
Recording / playback S/N ratio	1) Input a 1 kHz (300mV) signal to AUX terminal and record it. While recording, remove the input and record without the signal. 2) Connect a electronic voltmeter to the speaker terminals to measure the output levels. 3) Confirm that the output level ratio between the signals with a 1kHz and no signal is more than 40dB.		more than 40 dB (Normal CrO_2)	
Erase ratio check	1) Input a 400 Hz (950mV) to AUX terminal and record it with CrO_2 tape. 2) Rewind and erase part of the recorded section. 3) Confirm that the output level ratio between recorded and erased section is more than 55dB.		more than 55 dB	Connect a 400 Hz band-pass filter between the deck and electronic voltmeter when making the adjustment. Use CrO_2 tape.
				400 Hz 0 dB Input → Deck record / erase → Band-pass filter → Electronicc voltmeter
Music scan	1) Confirm that scanning can be done with TMT-6247 at the end of the tape in FF scan mode, and at the head of the tape in REW scan. 2) Confirm that scanning can not be done with TMT-6237.			



■ CD section



(1) Adjustment measure

Oscilloscope , Test disc (CRG-1117)

(2) Procedures

1) FE bias

① Connect a oscilloscope betweern TP5(FE) and TP4(GND).
② Adjust R683 so that the dc voltage at TP5 becomes 0±10mV.

2) EF balance

① Connect a oscilloscope between TP7(TE) and TP4(GND) and play the test disc.
② Connect TP2(TEST) with TP4(GND).
③ Adjust R684 so that the center voltage of the waveform becomes 0±0.05V.

3) Gain adjustment

If the gain is out of adjustment, the symptoms below will appear.

● Gain too low

Focus gain	:	Focus is not obtained and disc does not rotate.
Tracking gain	:	Mechanical shock occurs easily and sound is interrupted. Or time counter display stops counting.

● Gain too high

Focus gain	:	Scratches (on the disc) easily interrupt play, and noise is increased during play.
Tracking gain	:	Since the follow-up ability of the pickup is too high, the pickup may oscillate and oscillating sound may output.

As described above, the focus and tracking gain adjustment are performed to satisfy mutually contradictory characteristics.
A simplified adjustment procedure is described below. However, since exact adjustment can not be performed prior to adjustments, note(or mark) the positions of the semi-fixed resistors.
If the positions after the adjustment are only different, return the VRs to their original position.

Focus gain adjustment

1. Connect an oscilloscope to TP 5(FE) and TP 4(GND).
2. Load the test disc and press the PLAY button.
3. Adjust R703 (F.GAIN ADJ.) so that the correct waveform as shown in figure 1 is obtain. (The dc offset may not occur.)

Tracking gain adjustment

1. Connect an oscilloscope to TP 7(TE) and TP 4(GND).
2. Load the test disc and press the PLAY button.
3. Adjust R704 (T.GAIN ADJ.) so that the correct waveform as shown in figure 2 is obtain.

Focus Gain Adjustment

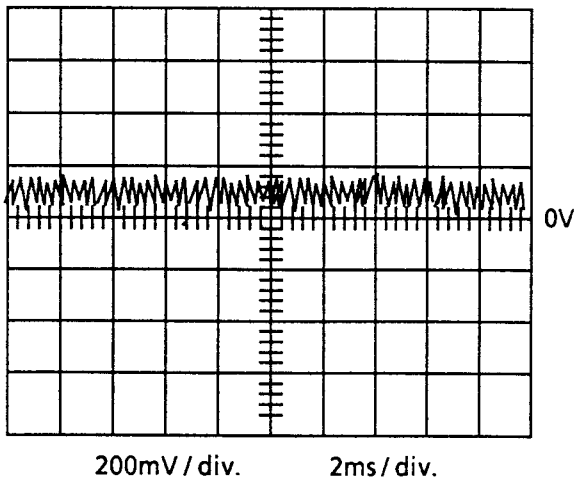


Figure 1

Tracking Gain Adjustment

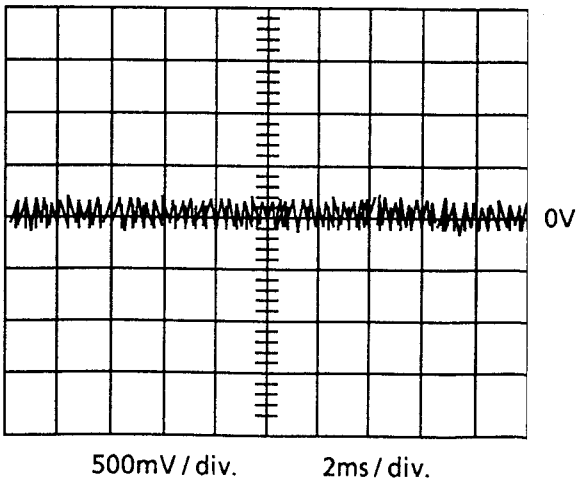
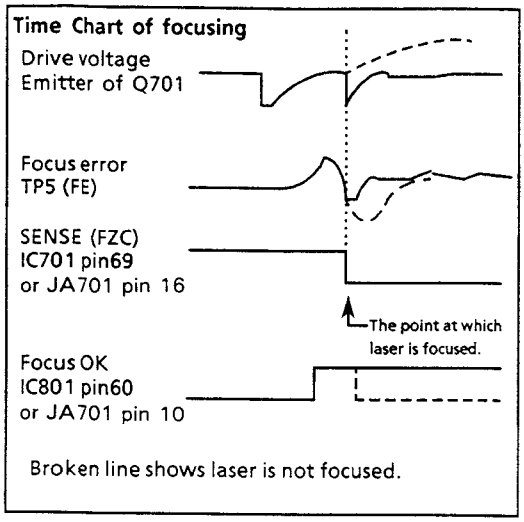
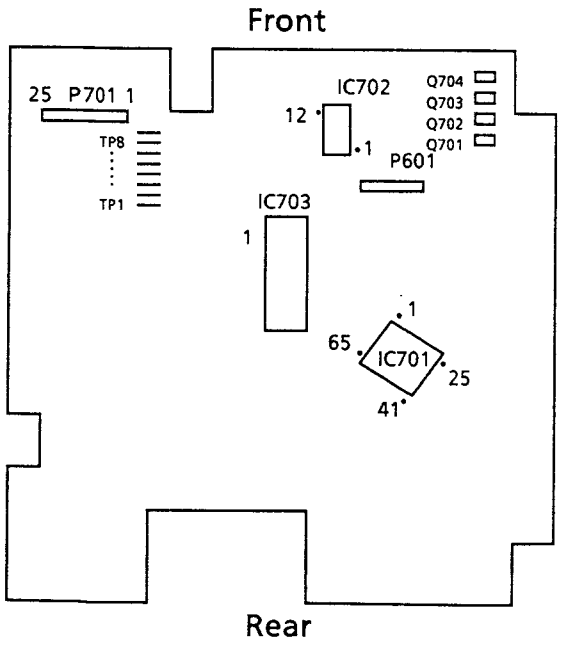


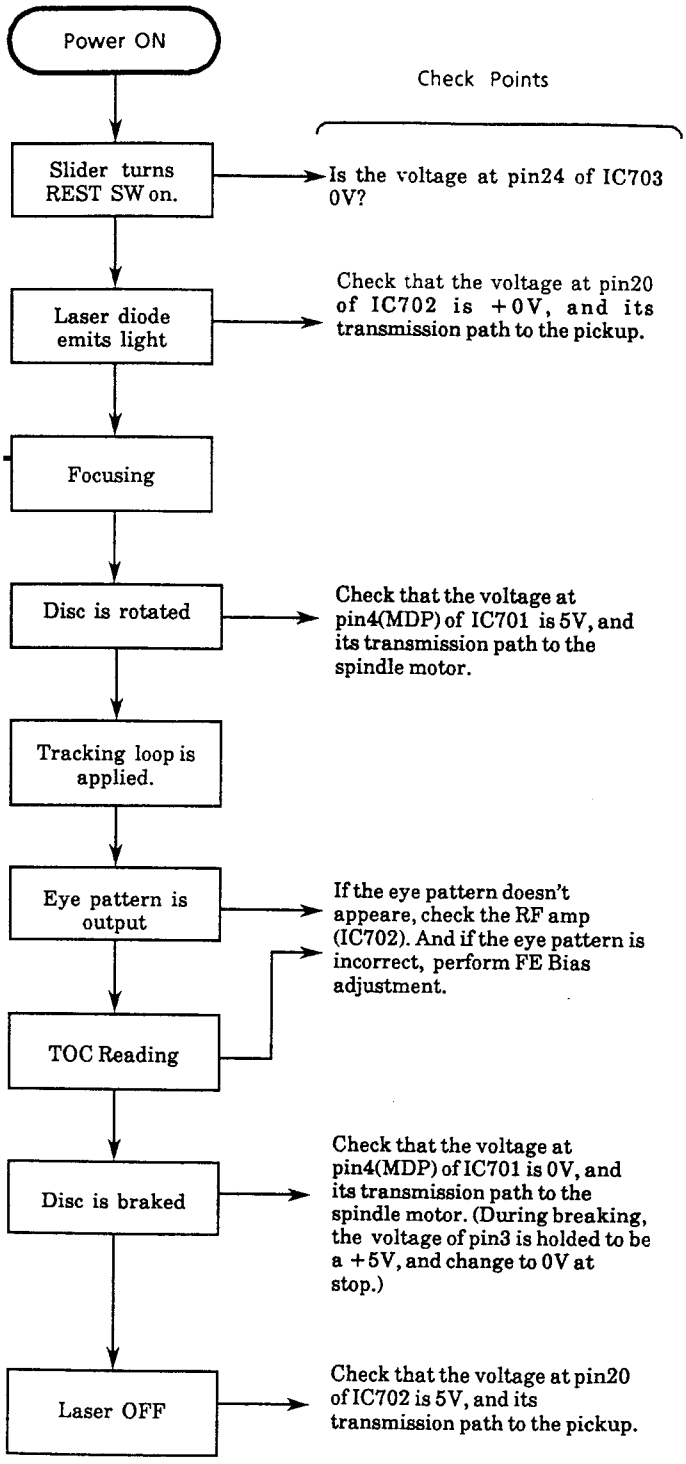
Figure 2

MC-Service

Flow of Functional Operation Until TOC is Read





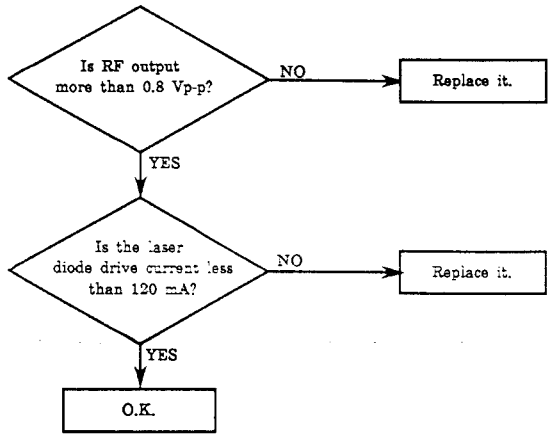

Power ON
Check Points
Slider turns REST SW on.
Is the voltage at pin24 of IC703 0V?
Laser diode emits light
Check that the voltage at pin20 of IC702 is +0V, and its transmission path to the pickup.
Focusing
Disc is rotated
Check that the voltage at pin4(MDP) of IC701 is 5V, and its transmission path to the spindle motor.
Tracking loop is applied.
Eye pattern is output
If the eye pattern doesn't appeare, check the RF amp (IC702). And if the eye pattern is incorrect, perform FE Bias adjustment.
TOC Reading
Disc is braked
Check that the voltage at pin4(MDP) of IC701 is 0V, and its transmission path to the spindle motor. (During breaking, the voltage of pin3 is holded to be a +5V, and change to 0V at stop.)
Laser OFF
Check that the voltage at pin20 of IC702 is 5V, and its transmission path to the pickup.

Maintenance of Laser Pickup

(1) Life of the laser diode

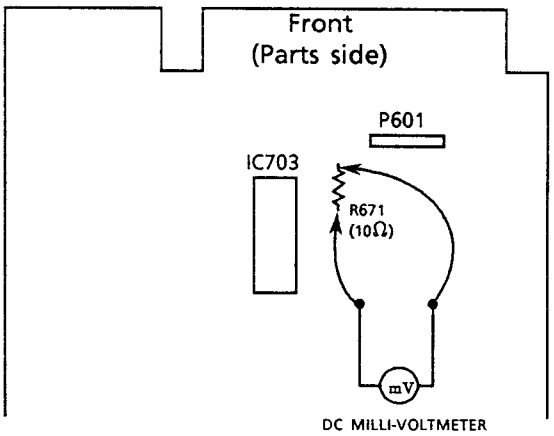
When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output: amplitude of eye pattern) will be low.
2. The drive current required by the laser diode will be increased.
   In such a case, check the life of the laser diode by the flowchart below



(2) Measurement of laser diode drive current

Measure the voltage across the resistor R671 by using a milli-voltmeter. When the voltage is more than 1.2V, it shows that the life of the laser diode has expired.



(3) Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

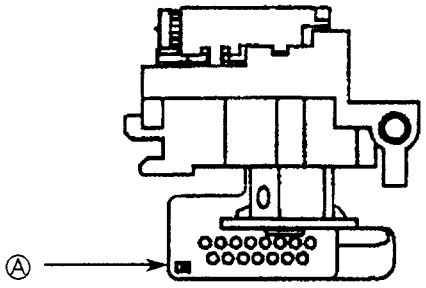
If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup

Before installing the pickup

Unsolder the part Ⓐ, which is used for countermeasure for static electricity.



Turn off the power switch and, disconnect the power cord from the ac outlet.

↓

Replace the pickup with a normal one. (Refer to "Pickup Removal" on the previous page)

↓

Plug the power cord in, and turn the power on. At this time, check that the laser emits for about 3 seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.

↓

Play a disc, and when it starts rotating, short circuit between TP2(TEST) and GND.

↓

Adjust tracking gain.

↓

Adjust tracking offset.

↓

Disconnect TP2 (TEST) from GND.

↓

Check the eye-pattern at TP3(RF)

↓

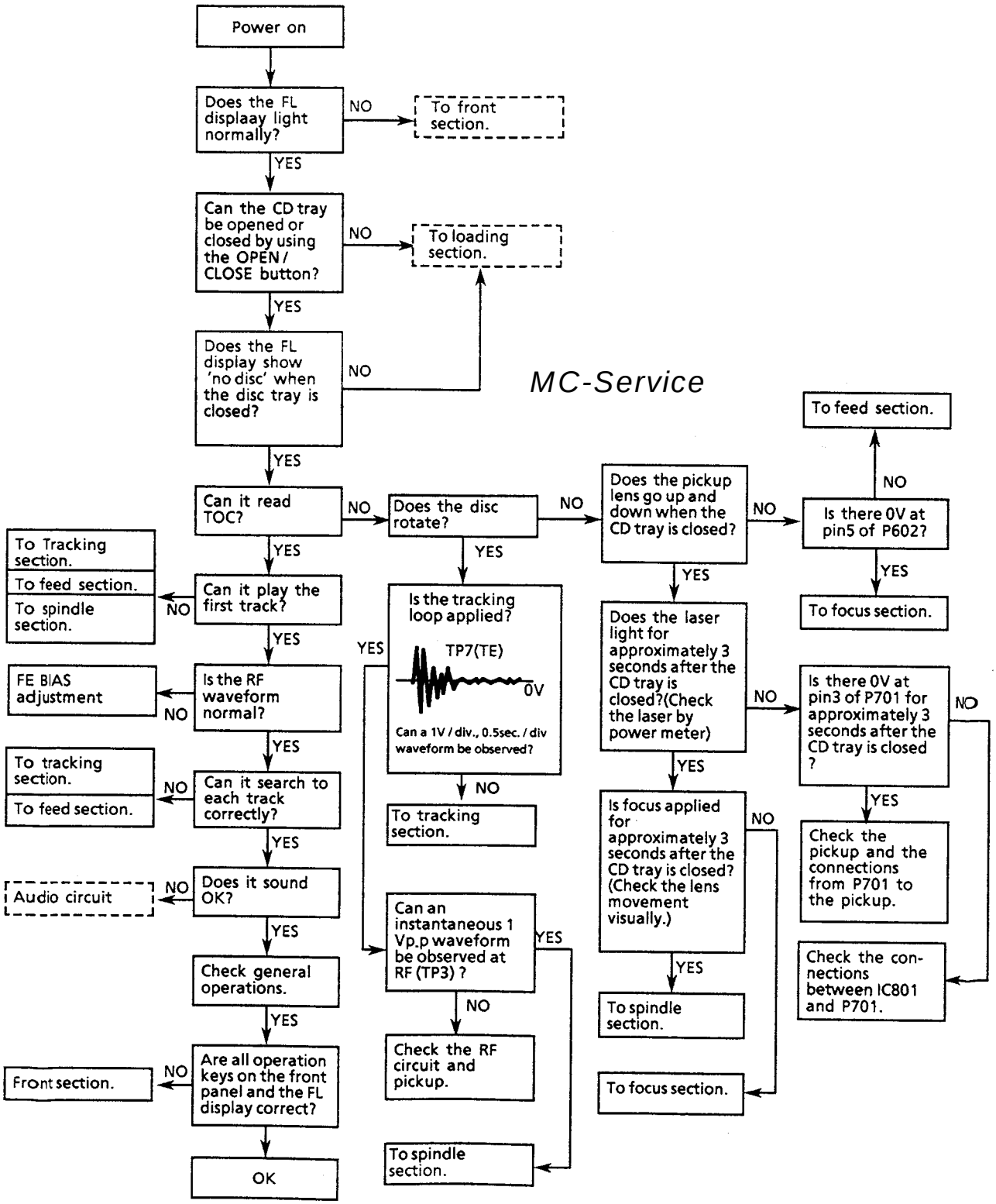
Finish.

Note: Since one adjustment may affect other settings, repeat these adjustments a few times.

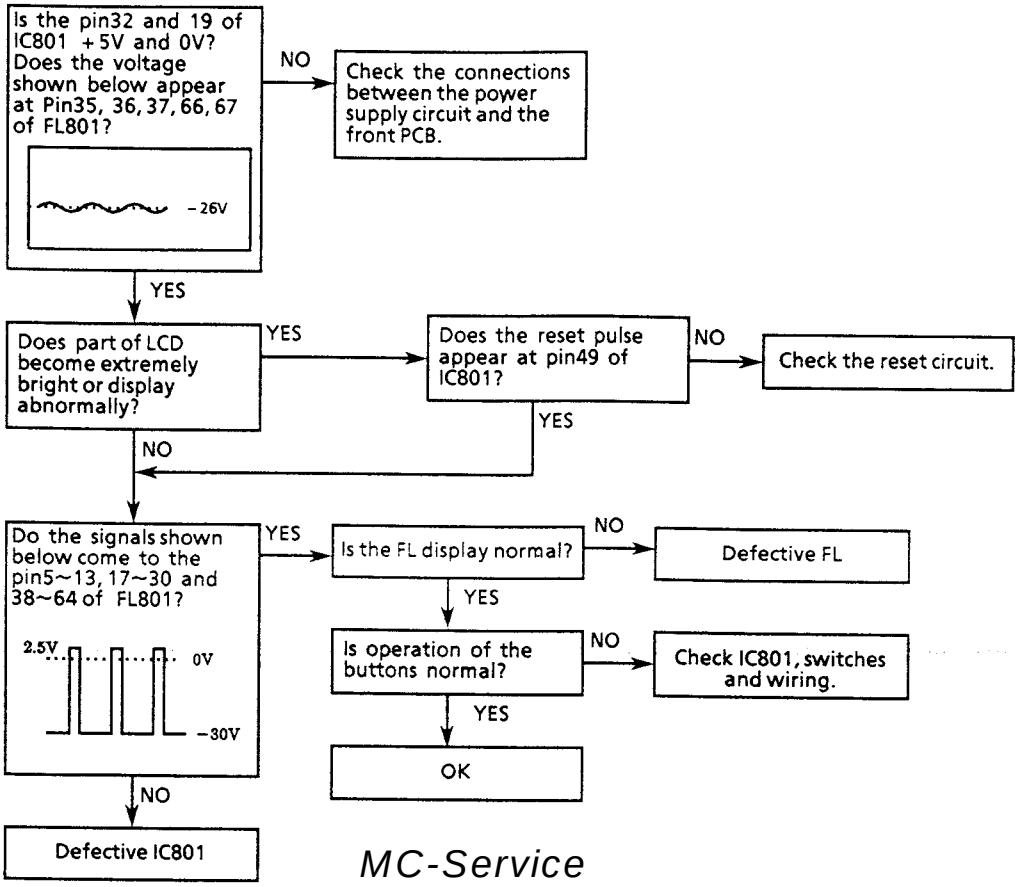
MC-Service

Troubleshooting

The following shows the status of the various circuits from turning on the power to the start of disc play .

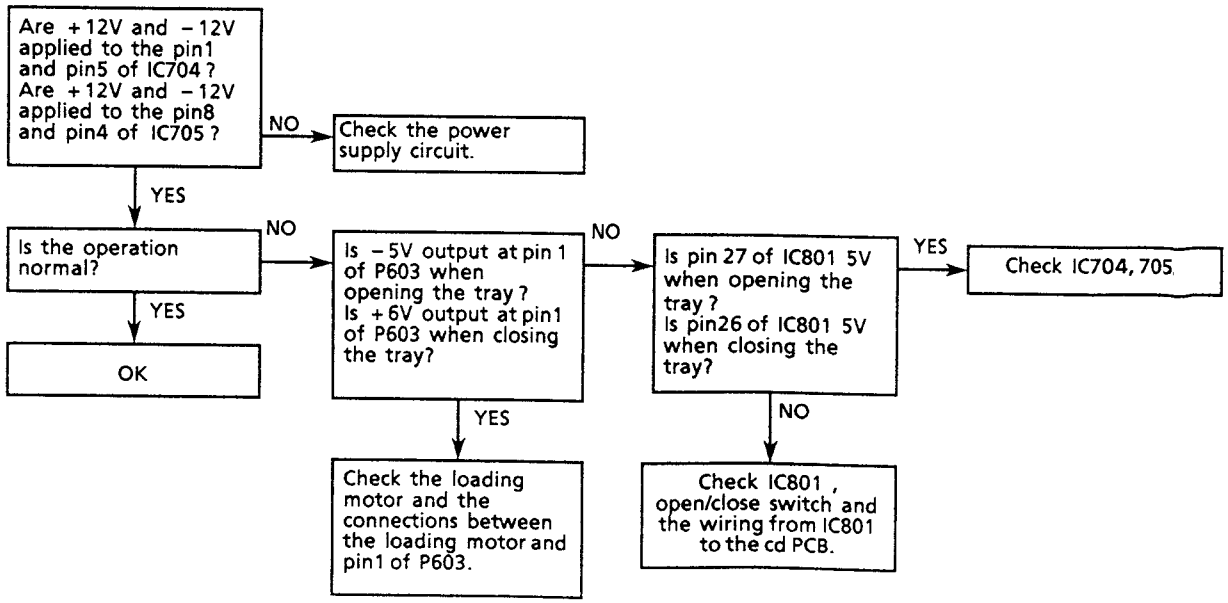


Front Section

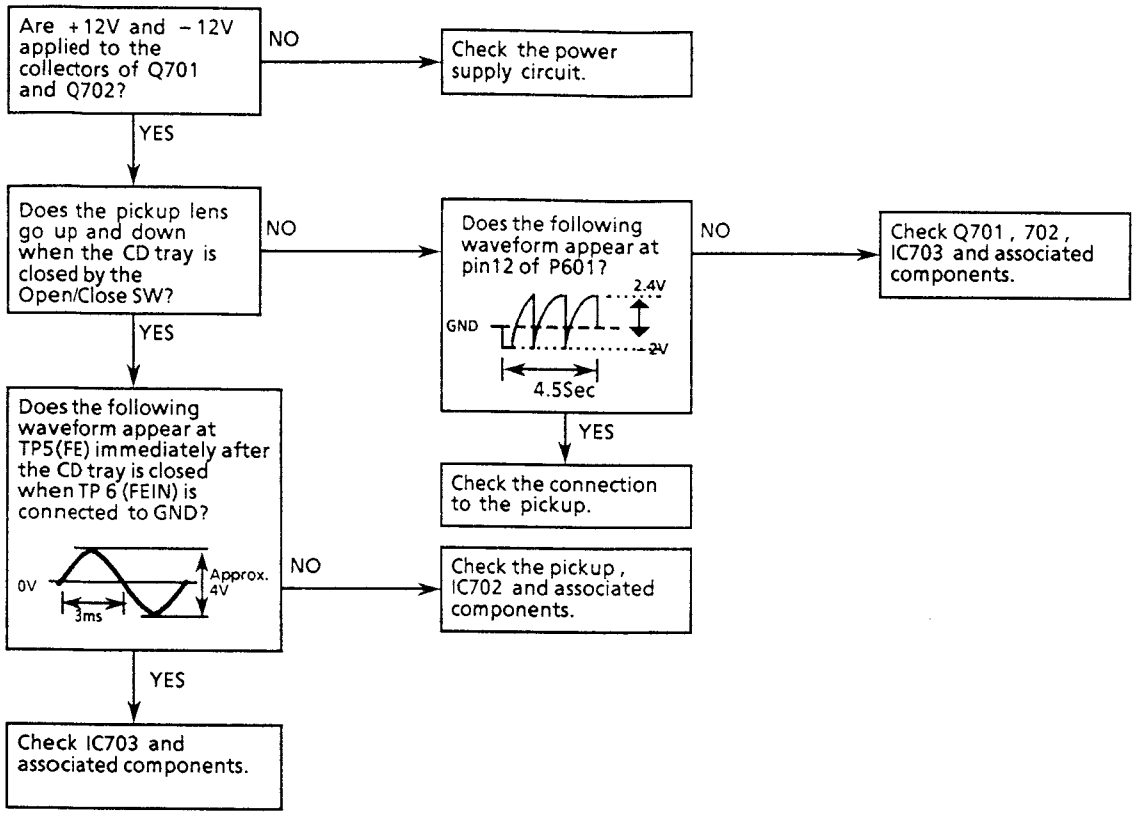


MC-Service

Loading section

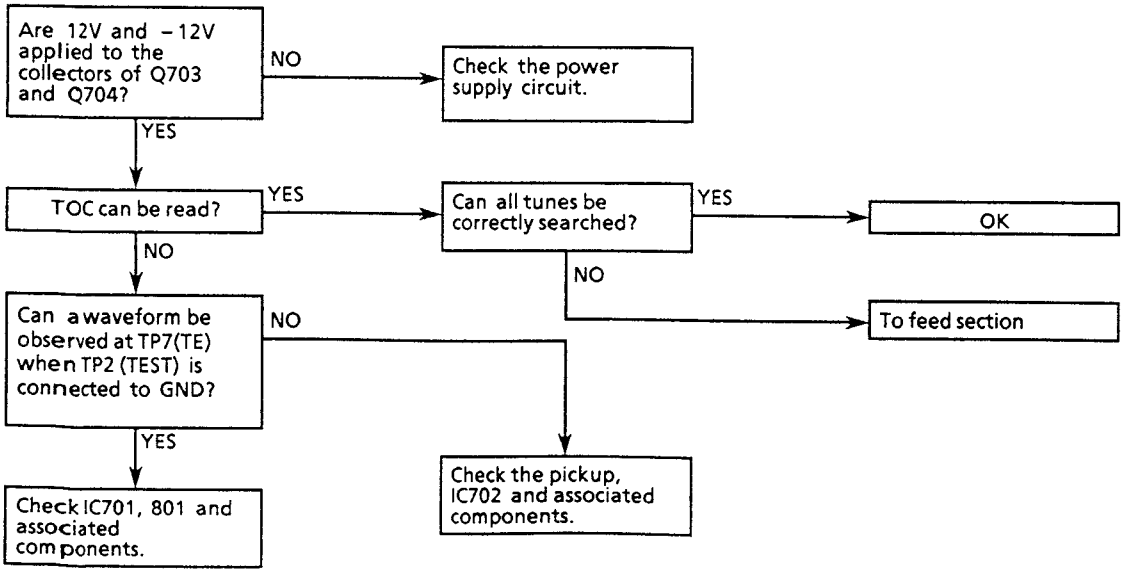

Are +12V and -12V applied to the pin1 and pin5 of IC704? Are +12V and -12V applied to the pin8 and pin4 of IC705?
NO
Check the power supply circuit.
YES
Is the operation normal?
NO
YES
OK
Is -5V output at pin 1 of P603 when opening the tray? Is +6V output at pin1 of P603 when closing the tray?
NO
YES
Check the loading motor and the connections between the loading motor and pin1 of P603.
Is pin 27 of IC801 5V when opening the tray? Is pin26 of IC801 5V when closing the tray?
YES
Check IC704, 705.
NO
Check IC801, open/close switch and the wiring from IC801 to the cd PCB.

Focus section

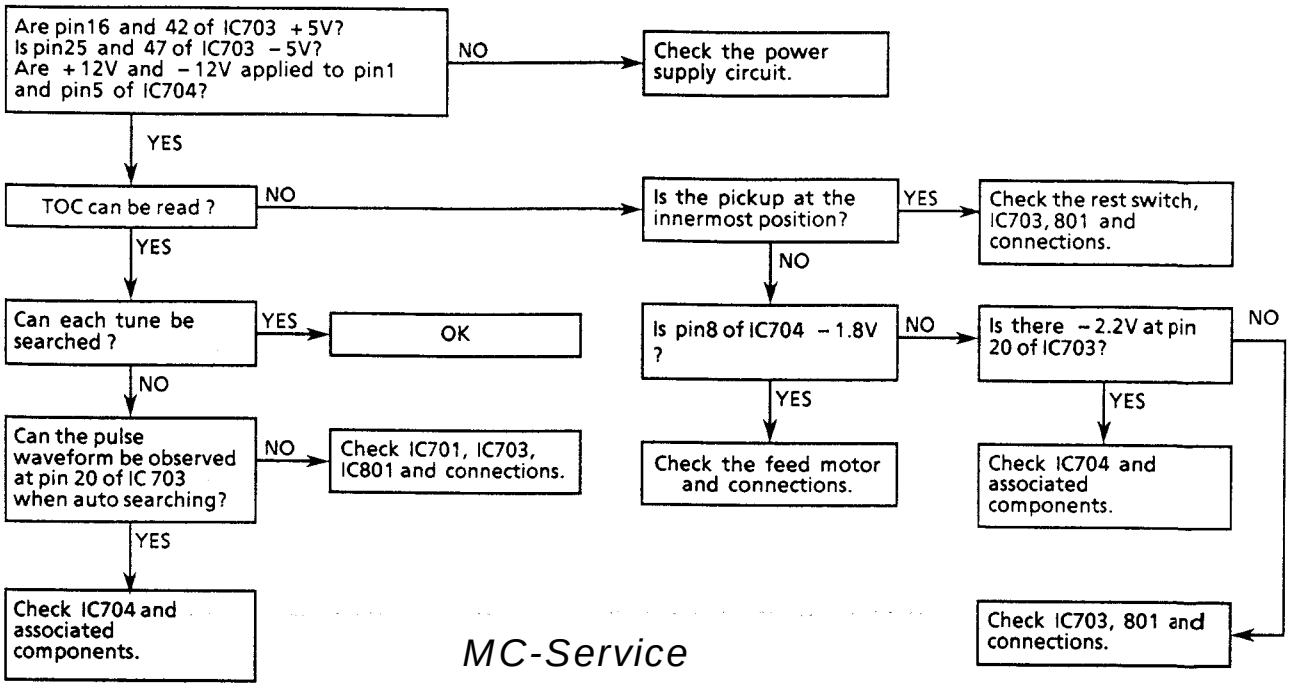

Are +12V and −12V applied to the collectors of Q701 and Q702?
NO
Check the power supply circuit.
YES
Does the pickup lens go up and down when the CD tray is closed by the Open/Close SW?
NO
Does the following waveform appear at pin12 of P601?
2.4V
GND
2V
4.5Sec
NO
Check Q701, 702, IC703 and associated components.
YES
Check the connection to the pickup.
Does the following waveform appear at TP5(FE) immediately after the CD tray is closed when TP 6 (FEIN) is connected to GND?
0V
Approx. 4V
3ms
NO
Check the pickup, IC702 and associated components.
YES
Check IC703 and associated components.

MC-Service

Tracking section



Feed section


Are pin16 and 42 of IC703 +5V?
Is pin25 and 47 of IC703 −5V?
Are +12V and −12V applied to pin1 and pin5 of IC704?
NO
Check the power supply circuit.
YES
TOC can be read ?
NO
Is the pickup at the innermost position?
YES
Check the rest switch, IC703, 801 and connections.
NO
YES
Can each tune be searched ?
YES
OK
NO
Is pin8 of IC704 −1.8V ?
NO
Is there −2.2V at pin 20 of IC703?
NO
YES
YES
Can the pulse waveform be observed at pin 20 of IC 703 when auto searching?
NO
Check IC701, IC703, IC801 and connections.
Check the feed motor and connections.
Check IC704 and associated components.
YES
Check IC704 and associated components.
Check IC703, 801 and connections.

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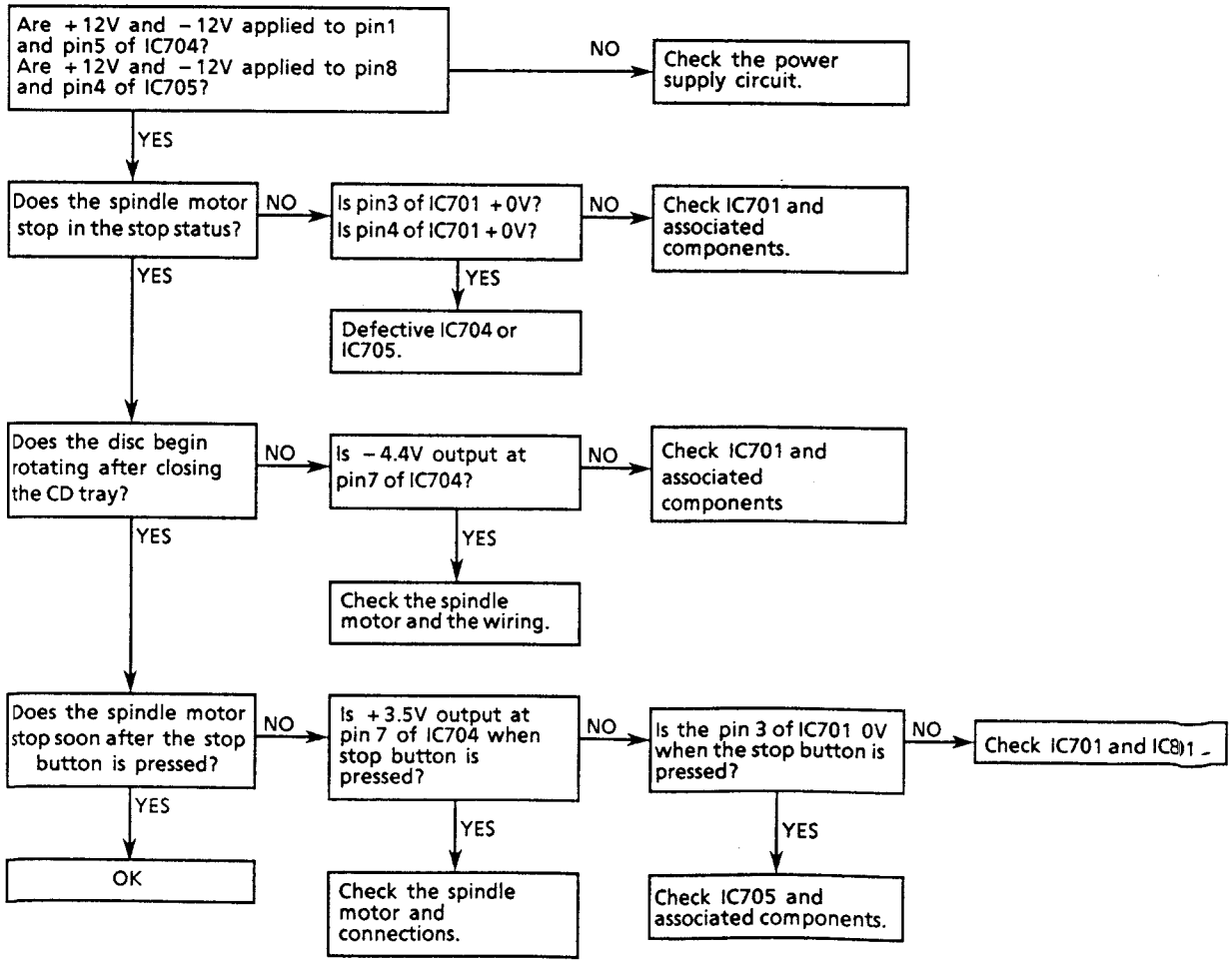
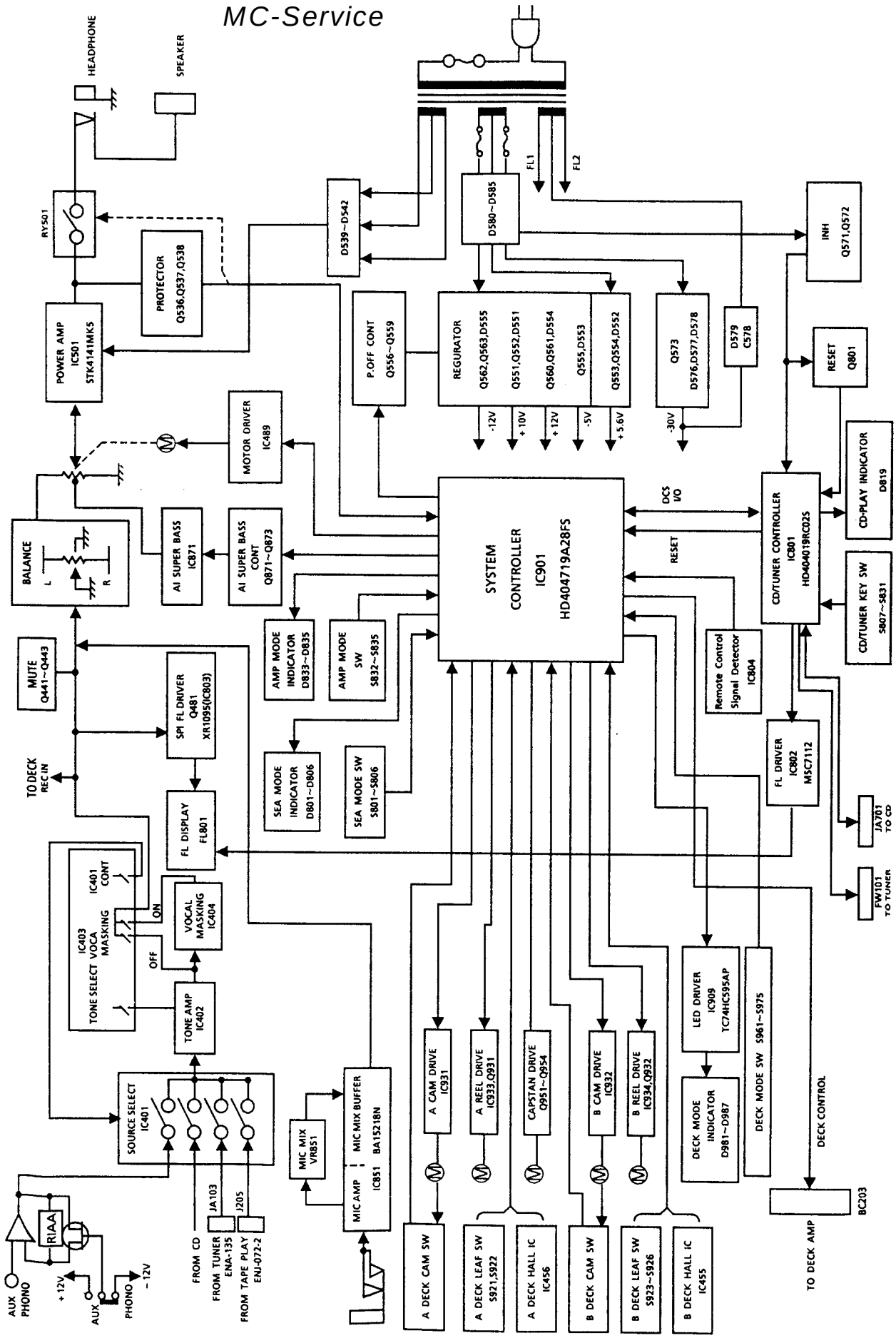
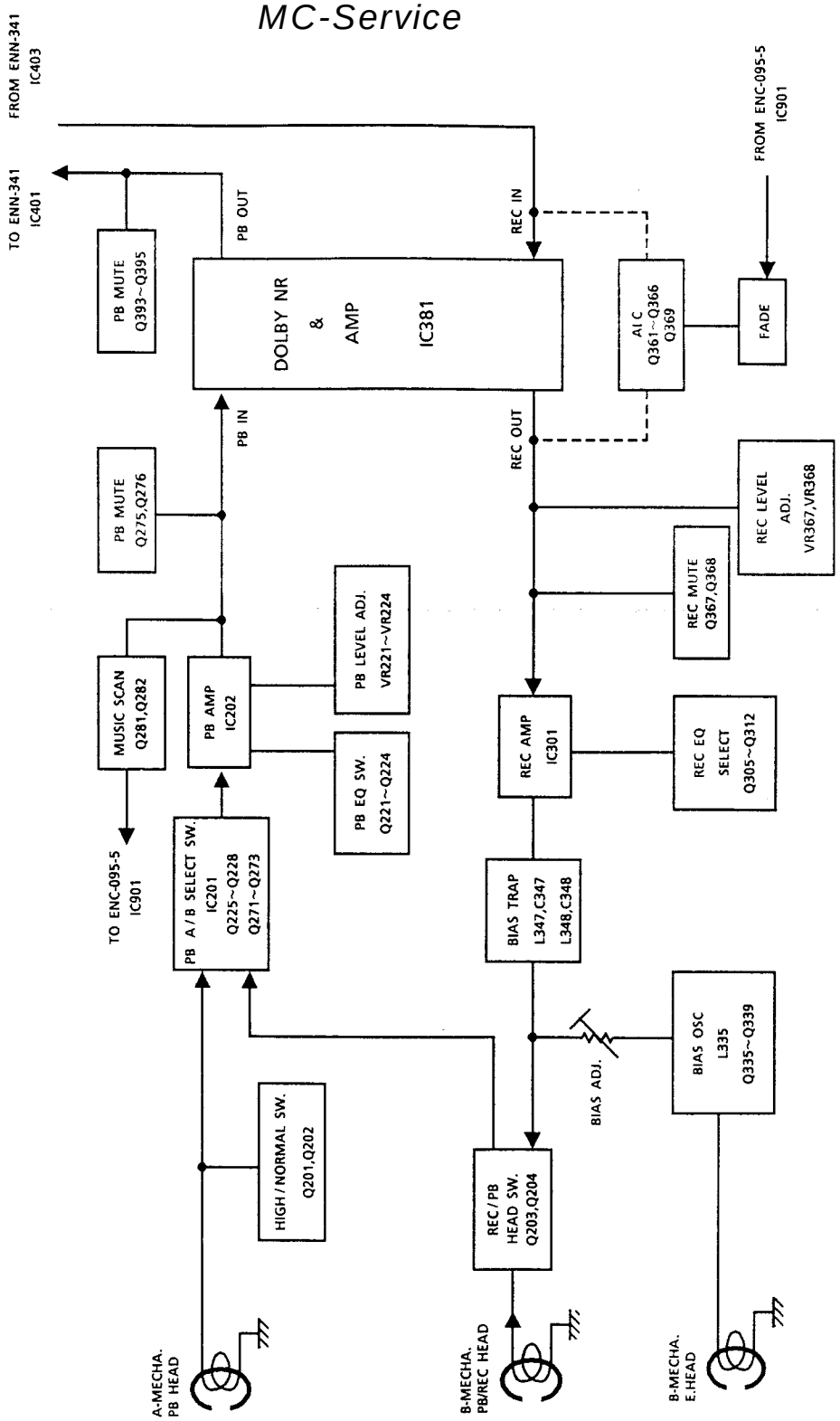
Spindle section


Are +12V and −12V applied to pin1 and pin5 of IC704?
Are +12V and −12V applied to pin8 and pin4 of IC705?
NO
Check the power supply circuit.
YES
Does the spindle motor stop in the stop status?
NO
Is pin3 of IC701 +0V?
Is pin4 of IC701 +0V?
NO
Check IC701 and associated components.
YES
YES
Defective IC704 or IC705.
Does the disc begin rotating after closing the CD tray?
NO
Is −4.4V output at pin7 of IC704?
NO
Check IC701 and associated components
YES
YES
Check the spindle motor and the wiring.
Does the spindle motor stop soon after the stop button is pressed?
NO
Is +3.5V output at pin 7 of IC704 when stop button is pressed?
NO
Is the pin 3 of IC701 0V when the stop button is pressed?
NO
Check IC701 and IC801
YES
YES
YES
OK
Check the spindle motor and connections.
Check IC705 and associated components.

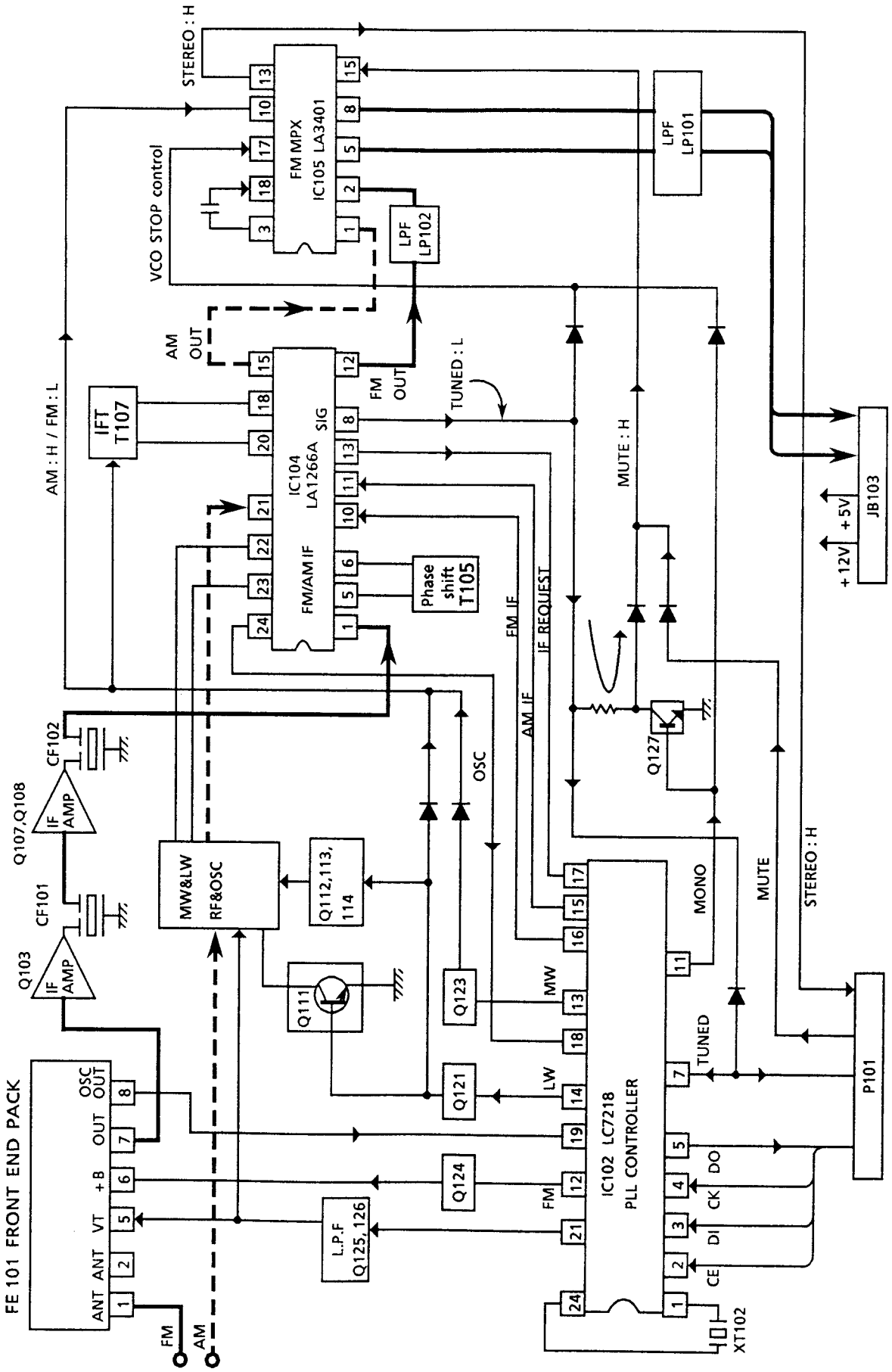
MC-Service


HEADPHONE
SPEAKER
RY501
PROTECTOR Q536,Q537,Q538
POWER AMP IC501 STK4141MK5
D539~D542
D580~D585
FL1
FL2
INH Q571,Q572
P.OFF CONT Q556~Q559
REGURATOR Q562,Q563,D555 Q551,Q552,D551 Q560,Q561,D554 Q555,D553 Q553,Q554,D552
Q573 D576,D577,D578
D579 C578
RESET Q801
-12V
+10V
+12V
-5V
+5.6V
-30V
MOTOR DRIVER IC489
BALANCE L R
AI SUPER BASS IC871
AI SUPER BASS CONT Q871~Q873
SYSTEM CONTROLLER IC901 HD404719A28FS
DCS I/O
RESET
CD/TUNER CONTROLLER IC801 HD404019RC025
CD-PLAY INDICATOR D819
CD/TUNER KEY SW S807~S831
AMP MODE INDICATOR D833~D835
AMP MODE SW S832~S835
Remote Control Signal Detector IC804
MUTE Q441~Q443
SPI FL DRIVER Q481 XR1095(IC803)
TO DECK REC IN
SEA MODE INDICATOR D801~D806
SEA MODE SW S801~S806
FL DRIVER IC802 M5C7112
FL DISPLAY FL801
JA701 TO CD
FW101 TO TUNER
IC401 CONT
IC403 TONE SELECT VOCA MASKING
ON
OFF
VOCAL MASKING IC404
TONE AMP IC402
SOURCE SELECT IC401
MIC MIX VR851
MIC MIX BUFFER MIC AMP IC851 BA15218N
A CAM DRIVE IC931
A REEL DRIVE IC933,Q931
CAPSTAN DRIVE Q951~Q954
B CAM DRIVE IC932
B REEL DRIVE IC934,Q932
LED DRIVER IC909 TC74HC595AP
DECK MODE INDICATOR D981~D987
DECK MODE SW S961~S975
DECK CONTROL
BC203
TO DECK AMP
RIAA
AUX PHONO
+12V
AUX
PHONO
-12V
FROM CD
JA103
FROM TUNER ENA-135
J205
FROM TAPE PLAY ENJ-072-2
A DECK CAM SW
A DECK LEAF SW S921,S922
A DECK HALL IC IC456
B DECK CAM SW
B DECK LEAF SW S923~S926
B DECK HALL IC IC455

MC-Service


FROM ENN-341 IC403
TO ENN-341 IC401
PB OUT
REC IN
FROM ENC-095-5 IC901
PB MUTE Q393~Q395
DOLBY NR & AMP IC381
AI C Q361~Q366 Q369
FADE
PB IN
REC OUT
PB MUTE Q275,Q276
REC LEVEL ADJ. VR367,VR368
REC MUTE Q367,Q368
PB LEVEL ADJ. VR221~VR224
MUSIC SCAN Q281,Q282
PB AMP IC202
REC AMP IC301
REC EQ SELECT Q305~Q312
PB EQ SW. Q221~Q224
TO ENC-095-5 IC901
PB A/B SELECT SW. IC201 Q225~Q228 Q271~Q273
BIAS TRAP L347,C347 L348,C348
BIAS OSC L335 Q335~Q339
BIAS ADJ.
HIGH/NORMAL SW. Q201,Q202
REC/PB HEAD SW. Q203,Q204
A-MECHA. PB HEAD
B-MECHA. PB/REC HEAD
B-MECHA. E.HEAD

MC-Service


STEREO : H
FM MPX
IC105 LA3401
LPF
LP101
LPF
LP102
VCO STOP control
AM
OUT
FM
OUT
TUNED : L
IFT
T107
AM : H / FM : L
IC104
LA1266A
FM/AM IF
SIG
Phase
shift
T105
MUTE : H
+12V
+5V
JB103
FM IF
IF REQUEST
AM IF
CF102
Q107,Q108
IF
AMP
CF101
Q103
IF
AMP
MW&LW
RF&OSC
Q112,113,
114
OSC
Q111
Q123
Q121
Q124
Q127
MW
LW
FM
MONO
MUTE
STEREO : H
TUNED
P101
IC102 LC7218
PLL CONTROLLER
DO
CK
DI
CE
XT102
L.P.F
Q125,126
FE 101 FRONT END PACK
OSC OUT
OUT
+B
VT
ANT
ANT
FM
AM

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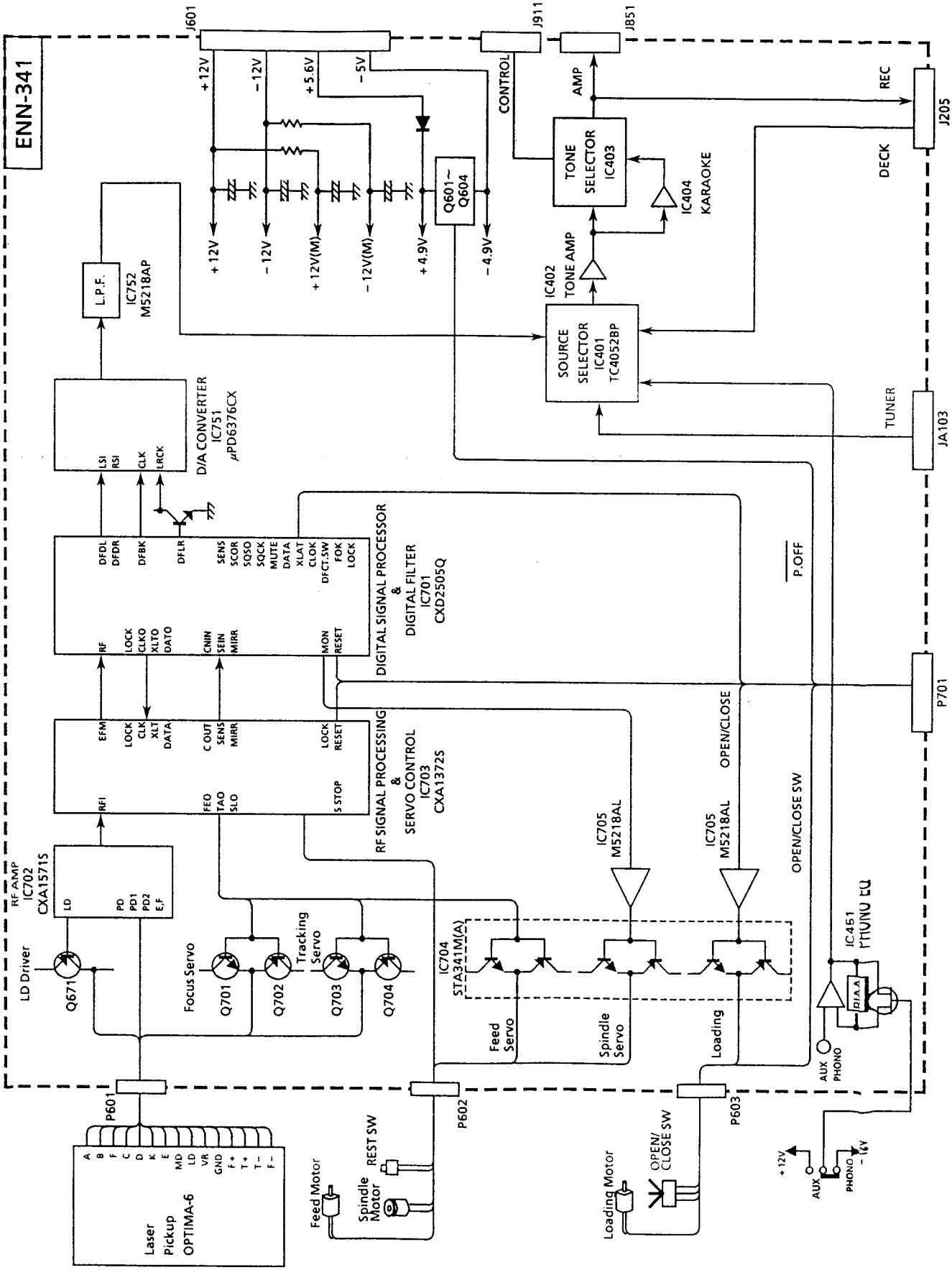
ENN-341
J601
J911
J851
+12V
-12V
+5.6V
-5V
CONTROL
AMP
REC
J205
DECK
TONE SELECTOR IC403
IC404 KARAOKE
Q601~Q604
+12V
-12V
+12V(M)
-12V(M)
+4.9V
-4.9V
IC402 TONE AMP
SOURCE SELECTOR IC401 TC4052BP
L.P.F.
IC752 M5218AP
D/A CONVERTER IC751 μPD6376CX
LSI RSI CLK LRCK
TUNER
JA103
DFDL DFDR DFBK DFLR
SENS SCOR SQSO SQCK MUTE DATA XLAT CLOK DFCT.SW FOK LOCK
RF LOCK CLKO XLTO DATO CNIN SEIN MIRR MON RESET
DIGITAL SIGNAL PROCESSOR & DIGITAL FILTER IC701 CXD2505Q
P.OFF
P701
EFM LOCK CLK XLT DATA COUT SENS MIRR LOCK RESET
RFI FEO TAO SLO S STOP
RF SIGNAL PROCESSING & SERVO CONTROL IC703 CXA1372S
OPEN/CLOSE
OPEN/CLOSE SW
IC705 M5218AL
IC705 M5218AL
RF AMP IC702 CXA1571S
LD PD PD1 PD2 E,F
LD Driver
Q671
Focus Servo
Q701
Q702
Tracking Servo
Q703
Q704
IC704 STA341M(A)
Feed Servo
Spindle Servo
Loading
IC451 PHONO EQ
AUX
PHONO
P601
P602
P603
A B F C D K E MD LD VR GND F+ T+ T- F-
Laser Pickup OPTIMA-6
Feed Motor
Spindle Motor
REST SW
Loading Motor
OPEN/CLOSE SW
+12V
AUX
PHONO
-12V

CA-MXS3BK

MC-Service

JVC

VICTOR COMPANY OF JAPAN, LIMITED
AUDIO DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No. 20373)

Printed in Japan
9212[O]

PARTS LIST

MC-Service

Note : All printed circuit boards and its assemblies are not available as service parts.

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■ ENC-095 ☐ Front & Deck Controller PC Board Ass'y 2-16
■ ENN-341 ☐ CD & Source Selector PC Board Ass'y 2-19
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Packing Materials and Part Numbers 2-25

General Exploded View and Parts List

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-CAMXS3BKE(S	FRONT PANEL ASSY	1		
	1-1	E102614-003SS	FRONT PANEL	1		
	1-2	E308156-001	WINDOW SCREEN	1		
	1-3	E308158-002SS	INDICATOR	1		
	1-4	E69777-003	REFLECTION PLATE	2		
	1-5	E406971-221	JVC MARK	2		
	2	E207554-002SA	CASSETTE LID ASSY	1	DECK A	
	2-1	E207554-002	CASSETTE LID	1	DECK A	
	2-2	E406971-221	JVC MARK	1	DECK A	
	3	E207557-002	CASSETTE LID ASSY	1	DECK B	
	4	E207560-001	CASSETTE HOLDER	1	DECK A	
	5	E207561-001	CASSETTE HOLDER	1	DECK B	
	6	E407269-002	EJECT SPRING	2		
	7	E406713-001	CASSETE SPRING	4		
	8	E75896-002	SPACER	2	FRONT FOOT	
	9	SBST3006M	SCREW	4		
	10	SBST3008Z	SCREW	3		
	11	E102358-332SS	TRAY	1		
	12	E207534-002	FITTING	1		
	13	SBSF3008M	SCREW	3		
	14	E304434-002	DAMPER ASSY	2		
	15	E308161-001	EJECT BUTTON	1	DECK B	
	16	E308155-002	BALANCE KNOB	2	MIC / BALANCE	
	17	E308150-002	VOLUME KNOB ASSY	1		
	18	E207550-004	PUSH BUTTON	1		
	19	E207552-002	PUSH BUTTON	1		
	20	E308148-002	PUSH BUTTON	1	OPEN / CLOSE	
	21	E207550-006	PUSH BUTTON	1		
	22	E207548-002	PUSH BUTTON	1		
	23	E308149-002	PUSH BUTTON	1	TUNING	
	24	E308169-002	CIRCUIT BOARD BRACKET	1		
	25	SDSF2608Z	SCREW	27		
	26	E207536-002	PUSH BUTTON ASSY	1	CD PLAY	
	27	EXO010005R10S	SPACER	2		
	28	E207539-002SS	PUSH BUTTON	1		A
		E207539-004SS	PUSH BUTTON	1		BS
		E207539-004SS	PUSH BUTTON	1		EF
		E207539-004SS	PUSH BUTTON	1		EN
		E207539-004SS	PUSH BUTTON	1		G
		E207539-004SS	PUSH BUTTON	1		GI
	29	E407199-001	INDICATOR	1		
	30	E407210-001	REMOCON PLATE	1		
	31	E407201-001	INDICATOR	1		
	32	E207541-001	PUSH BUTTON ASSY	1	SURROUND	
	33	E207543-002	PUSH BUTTON ASSY	1	POWER	
	34	E207545-002	PUSH BUTTON ASSY	1	DECK B	
	35	E407206-001	INDICATOR	1		
	36	E308151-002SS	PUSH BUTTON ASSY	1	DECK A	
	37	E407205-001	INDICATOR	2		
	38	E308160-001	EJECT BUTTON	1	DECK A	
	39	EWR123K-30TT	FLAT WIRE	1		
	40	EWR125K-13TT	FLAT WIRE	1		
	41	E308168-002	STAY BRACKET	1		
	42	E207567-001	HOLDER BRACKET	1		
	43	E308162-002	EJECT LEVER	2		

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
		E207780-003SS	REAR PANEL	1		EF
		E207780-003SS	REAR PANEL	1		EN
		E207780-003SS	REAR PANEL	1		G
		E207780-003SS	REAR PANEL	1		GI
	74	E73273-003	SPECIAL SCREW	3		
	75	SXST3006M	SCREW	9		
⚠	76	QMP25F0-244	POWER CORD	1		A
⚠		QMP5530-0085BS	POWER CORD	1		BS
⚠		QMP3900-200	POWER CORD	1		EF
⚠		QMP3900-200	POWER CORD	1		EN
⚠		QMP3900-200	POWER CORD	1		G
⚠		QMP3900-200	POWER CORD	1		GI
	77	E207356-223	REAR COVER	1		
	—	E61029-005	NUMBER LABEL	1		
	—	E70891-001	LABEL	1		
	—	QZL1031-101	LABEL	1		EF
	—	E70027-001	LABEL	1		EN

The Marks for Designated Areas

⚠ SAFETY PARTS

A ..... Australia
BS .... the U.K.
U ..... Universal

EN .... Scandinavia
G ..... Germany

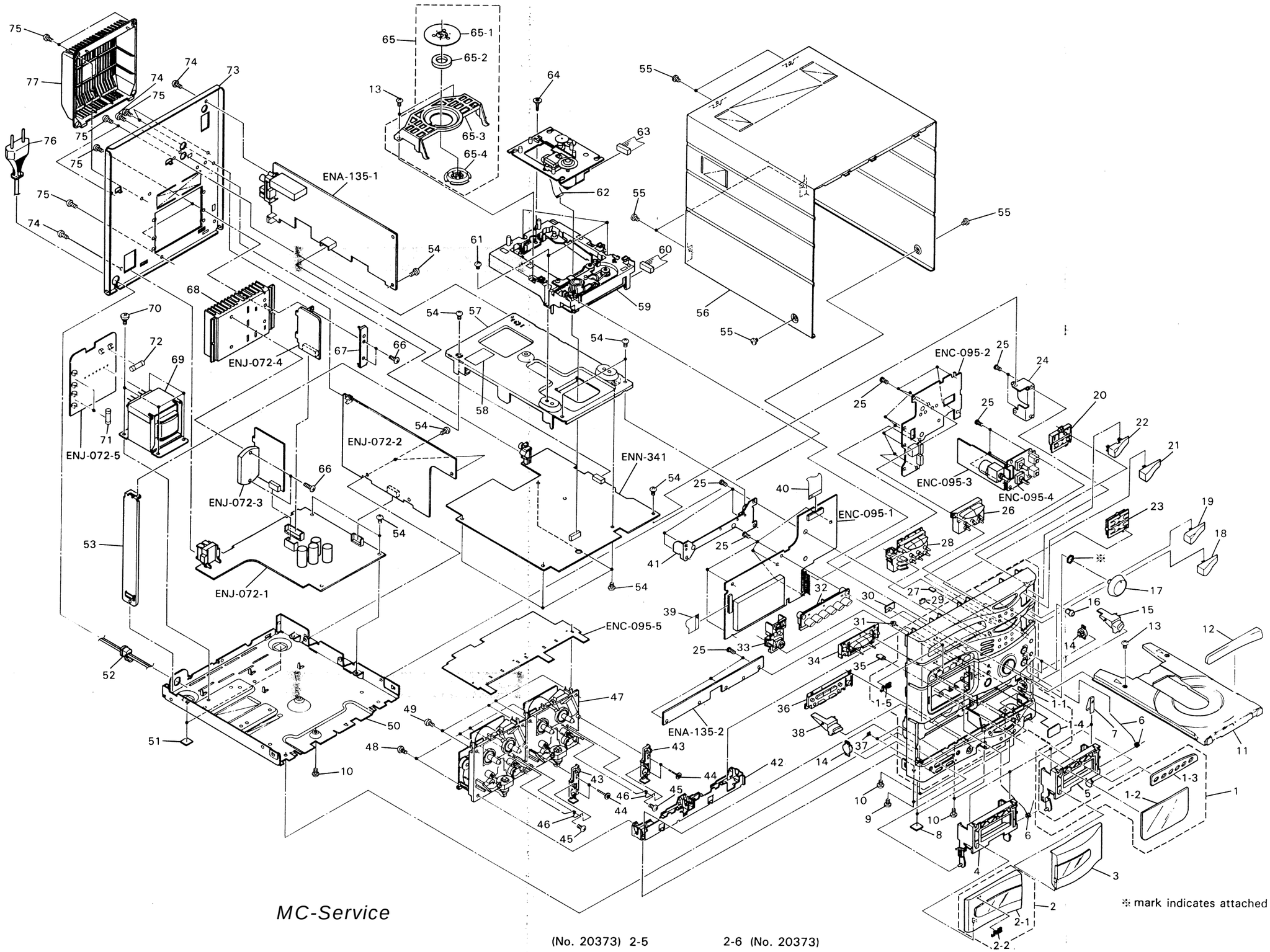
EF ..... Continental Europe
GI ..... Itary

No mark indicates all areas.

MC-Service

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	44	E407214-001	SPECIAL SCREW	4		
	45	GBSF3008Z	SCREW	2		
	46	E407304-001	SPRING	2		
	47	-----	CASSETTE MECHANISM UNIT ASSY	1	SEE PAGE 2-9	
	48	SBST3008C	SCREW	4		
	49	SBSF3010C	SCREW	4		
	50	E102616-003SS	CHASSIS BASE	1		
	51	E75896-006	FELT SPACER	2	REAR FOOT	
⚠	52	QHS3876-162	CORD STOPPER	1		A
⚠		QHS3876-162BS	CORD STOPPER	1		BS
⚠		QHS3876-162	CORD STOPPER	1		EF
⚠		QHS3876-162	CORD STOPPER	1		EN
⚠		QHS3876-162	CORD STOPPER	1		G
⚠		QHS3876-162	CORD STOPPER	1		GI
	53	E308167-001SS	STAY BRACKET	1		
	54	SBSG3008N	SCREW	15		
	55	SDSG3006M	SCREW	6		
	56	E207564-001	METAL COVER	1		
	57	E102617-001	CHASSIS BASE	1		
	58	E406507-001	CAUTION LABEL	1		
	59	-----	CD MECHANISM UNIT ASSY	1	SEE PAGE 2-7	
	60	EWS265-B408	SOCKET WIRE	1	5PIN	
	61	SBST3006Z	SCREW	3		
	62	EWR615M-14BB	FLAT WIRE	1	15PIN	
	63	EWS266-B412	SOCKET WIRE	1	6PIN	
	64	E406293-001	SPECIAL SCREW	1		
	65	E306837-005	CLAMPER BASE ASSY	1		
	65-1	E306836-003	YOKE PLATE	1		
	65-2	E74897-002	MAGNET	2		
	65-3	E26756-002	CLAMPER BASE	1		
	65-4	E306835-001	CLAMPER	1		
	66	SBSG3014Z	SCREW	4		
	67	E406969-221	LEAF SPRING	1		
	68	E307908-001SS	HEAT SINK	1		
⚠	69	ETP1070-33EAJ	POWER TRANSFORMER	1		A
⚠		ETP1070-33EAJBS	POWER TRANSFORMER	1		BS
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1		EF
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1		EN
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1		G
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1		GI
	70	E65389-004	SPECIAL SCREW	4		
⚠	71	QMF51E2-1R25J1	FUSE	2	F101,F102	A
⚠		QMF51E2-1R2J1BS	FUSE	2	F101,F102	BS
⚠		QMF51E2-1R25J1	FUSE	2	F101,F102	EF
⚠		QMF51E2-1R25J1	FUSE	2	F101,F102	EN
⚠		QMF51E2-1R25J1	FUSE	2	F101,F102	G
⚠		QMF51E2-1R25J1	FUSE	2	F101,F102	GI
⚠	72	QMF51E2-1R0J1	FUSE	1	F001	A
⚠		QMF51E2-1R0J1BS	FUSE	1	F001	BS
⚠		QMF51E2-1R0J1	FUSE	1	F001	EF
⚠		QMF51E2-1R0J1	FUSE	1	F001	EN
⚠		QMF51E2-1R0J1	FUSE	1	F001	G
⚠		QMF51E2-1R0J1	FUSE	1	F001	GI
	73	E207780-001SS	REAR PANEL	1		A
		E207780-002SS	REAR PANEL	1		BS

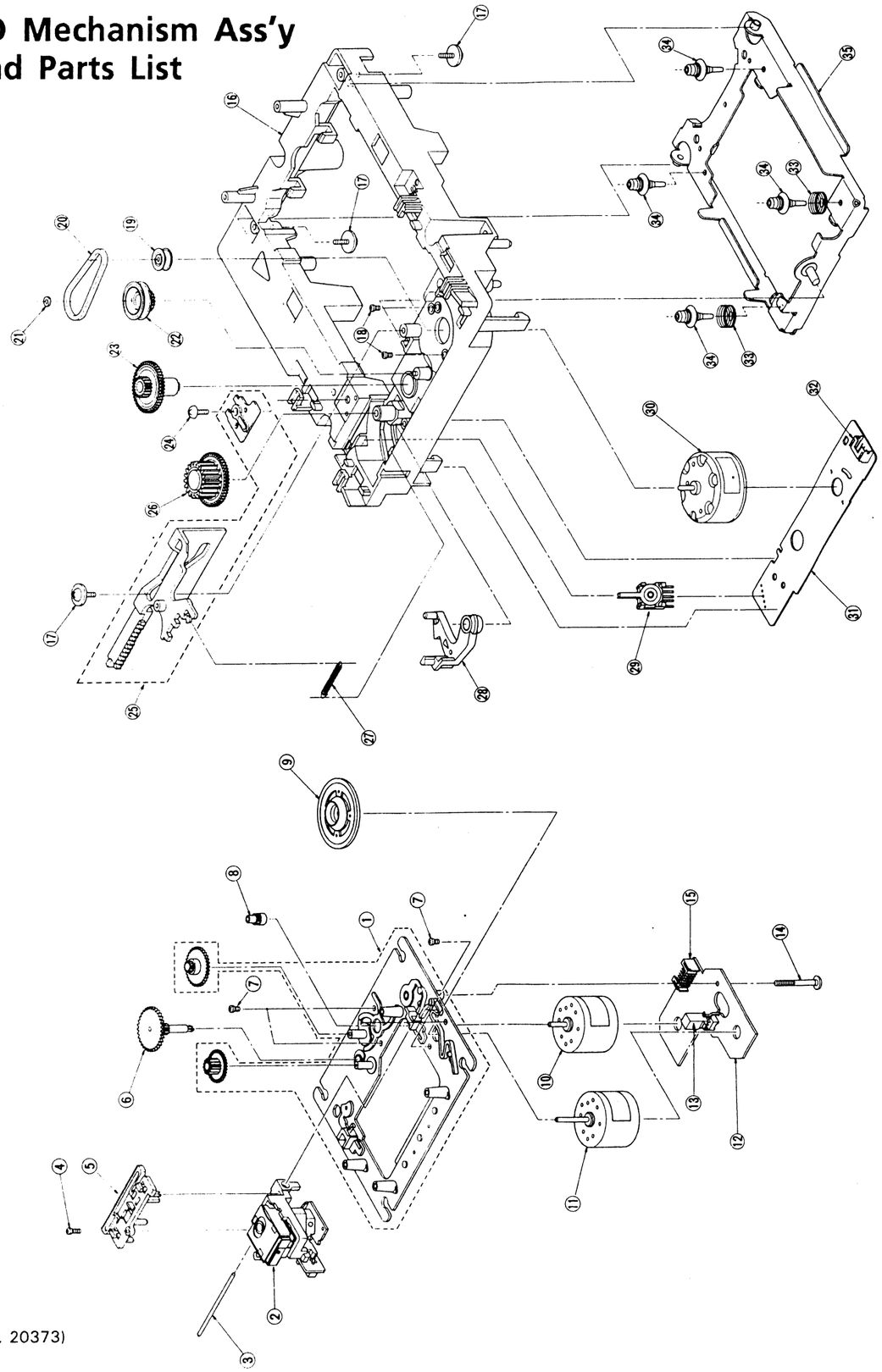
CA-MXS3BK CA-MXS3BK



MC-Service

(No. 20373) 2-5 2-6 (No. 20373)

CD Mechanism Ass'y and Parts List

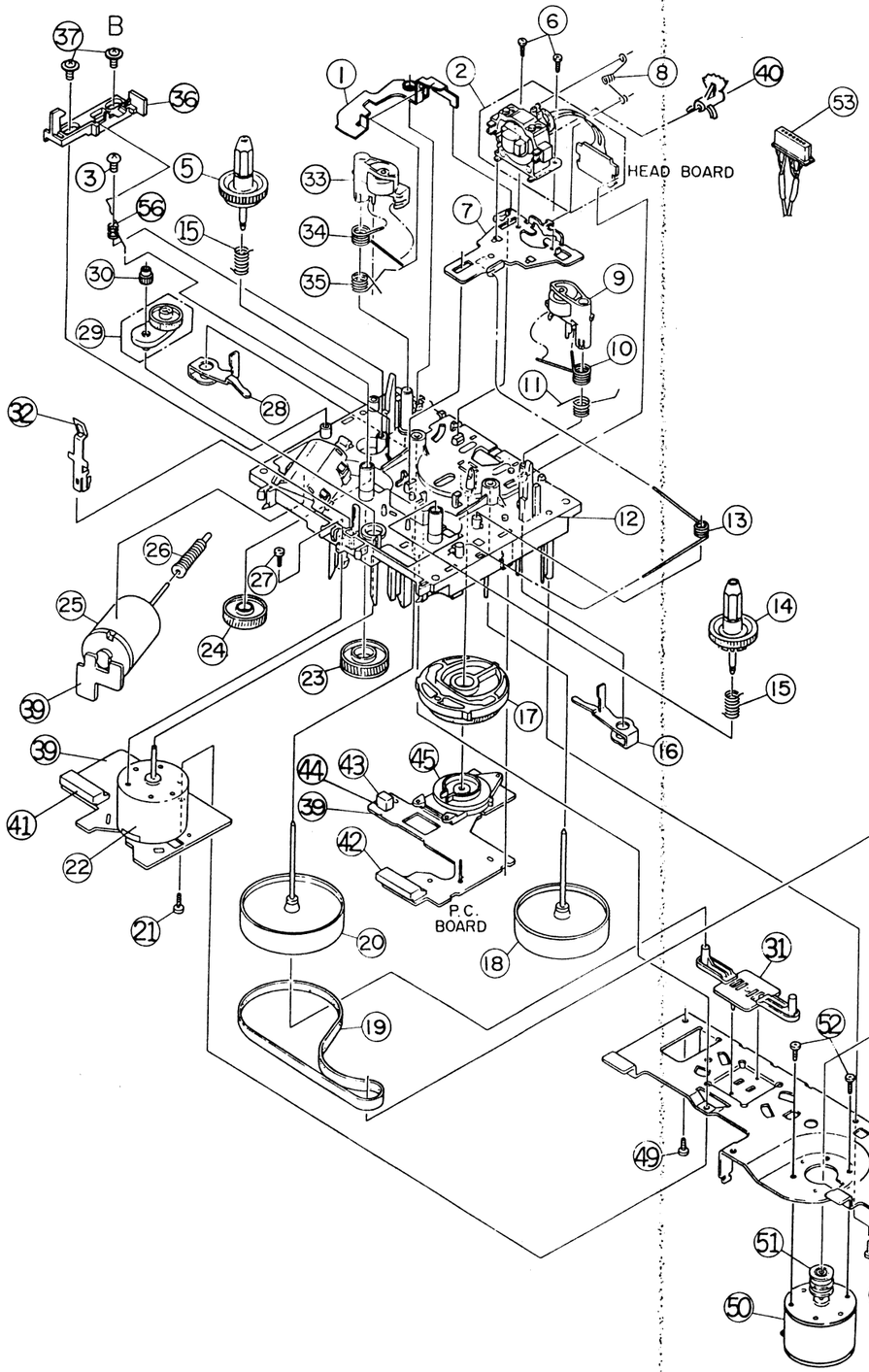


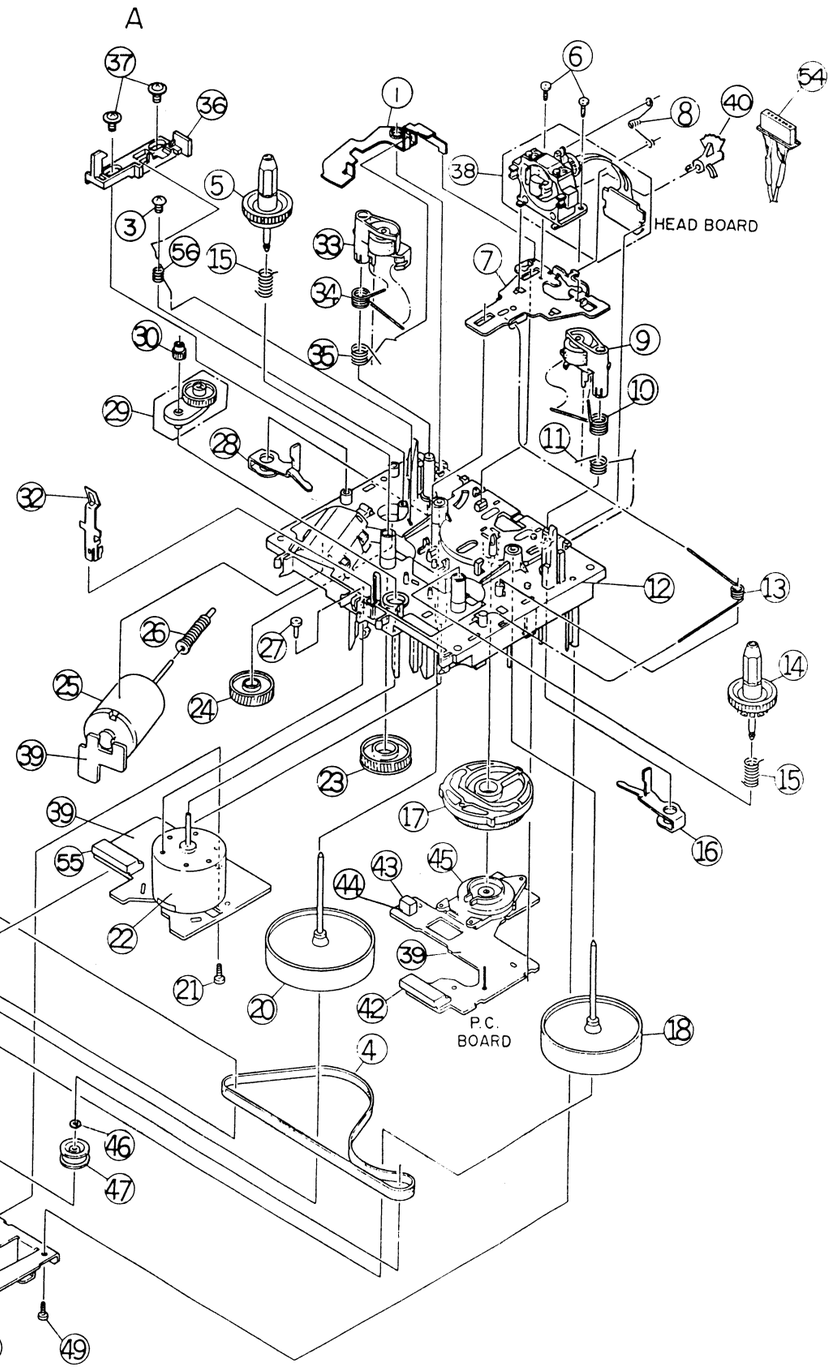
■ Parts List (CD Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASS'Y	1		
3	E406777-001	SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	EPB-003A	MECHANISM BASE ASSY	1		
7	SDSP2003N	SCREW	4		
8	E406750-001	PINION GEAR	1		
9	EPB-001C	TURNTABLE	1		
10	E406784-001	DC MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	CIRCUIT BOARD	1		
13	ESB1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	PLUG ASSY	1	6PIN	
16	E102357-221	LOADING BASE	1		
17	E65923-003	SCREW	3		
18	SPSK2640Z	SCREW	2		
19	E75984-001	MOTOR PULLEY	1		
20	E75950-002	BELT	1		
21	E72024-001	SPEED NUT	1		
22	E75985-001	GEAR	1		
23	E75986-002	GEAR	1		
24	SBSF3008Z	SCREW	1		
25	E307252-221	CAM - PLATE	1		
26	E75987-001	REEL GEAR	1		
27	E75989-001	SPRING	1		
28	E307162-221	LEVER	1		
29	ESS1200-002	SLIDE SWITCH	1		
30	RF-500TB-12560	MOTOR	1		
31	EMW10255-002(S)	CIRCUIT BOARD	1		
32	EMV5109-005B	PLUG ASSY	1	5PIN	
33	E406871-001	SPRING	2		
34	E406294-002	INSULATOR	4		
35	E307179-221	ELEVATOR BASE ASSY	1		

MC-Service

Cassette Mechanism Ass'y and Parts List





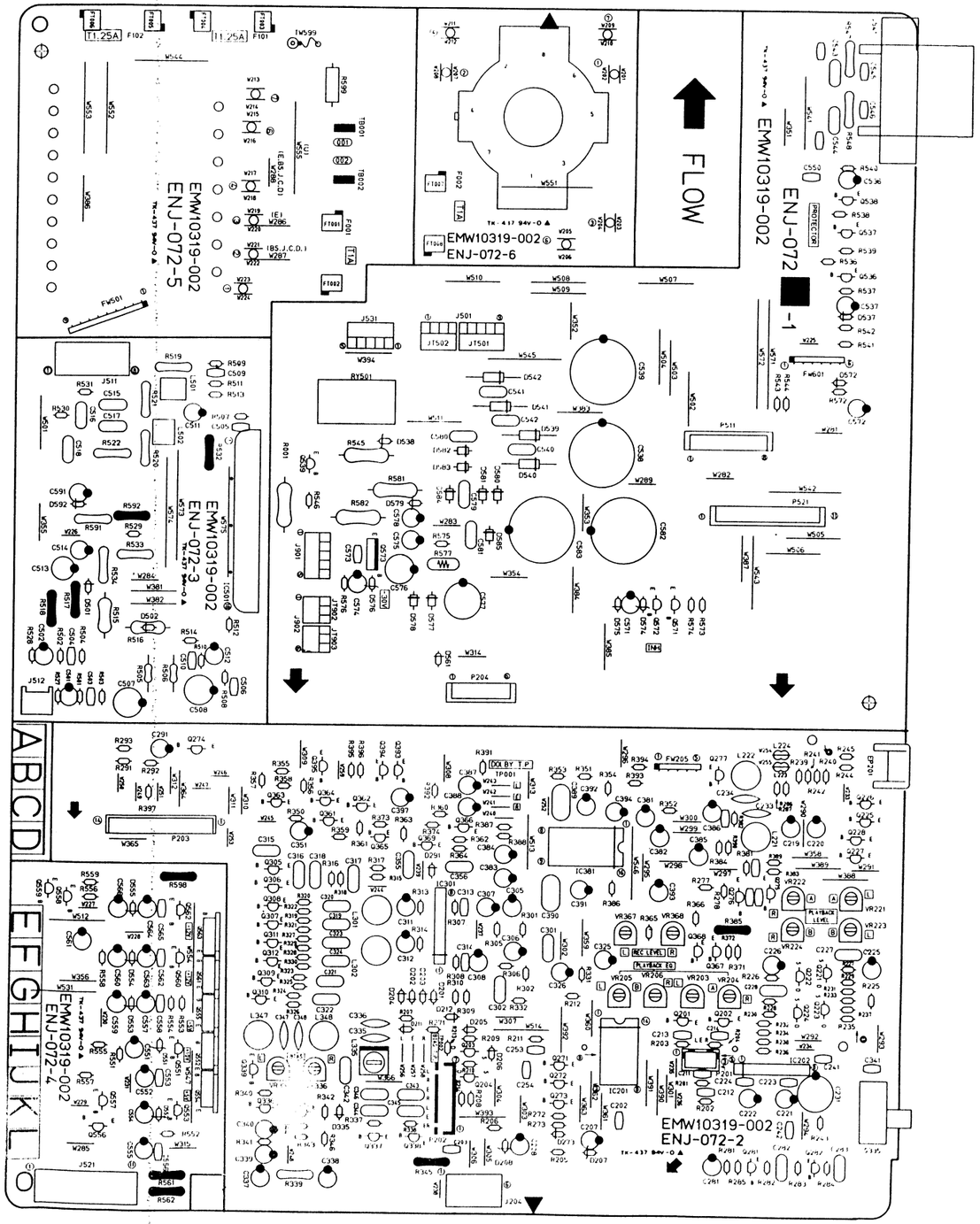
■ Parts List (Cassette Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Area
1	VKL7246-001	EJECT BRACKET	2		
2	VKS3551-00B	HEAD MOUNT ASS'Y	1	(B)	
3	GBSF3008Z	SCREW	2		
4	VKB3001-054	BELT	1	(A)	
5	VKS5321-00D	REEL ASS'Y	2	RIGHT	
6	SDST2004Z	SCREW	4	FOR HEAD MOUNT ASSY	
7	VKL6942-00E	HEAD BASE ASS'Y	2		
8	VKW4994-001	HEAD SPRING	2		
9	VKP4221-00C	PINCH ROLLER	2	LEFT	
10	VKW4982-001	TORSION SPRING	2	LEFT	
11	VKW4933-005	TORSION SPRING	2	LEFT	
12	VKS1125-00A	CHASSIS BASE ASS'Y	2		
13	VKW4930-002	RETURN SPRING	2		
14	VKS3480-005	REEL ASS'Y	2	LEFT	
15	VKW4928-003	B.T. SPRING	4	FOR REEL ASSY	
16	VKL6940-002	PINCH ROLLER LEVER	2	LEFT	
17	VKS2209-005	CONTROL CAM	2		
18	VKF3186-00C	FLYWHEEL ASS'Y	2	LEFT	
19	VKB3001-055	BELT	1	(B)	
20	VKF3184-00C	FLYWHEEL ASS'Y	2	RIGHT	
21	SDSF2608Z	SCREW	2	PC BOARD-FM BRACKET	
22	MMN-6F4RA38	D.C. MOTOR	2	REEL	
23	VKS5331-002	GEAR	2		
24	VKS5330-004	GEAR	2		
25	MXN-13FB12F	D.C. MOTOR	2	CAM	
26	VKS5329-002	GEAR	2		
27	SDSP2605Z	SCREW	2	CHASSIS BASE-D.C.MOTOR	
28	VKL6939-002	PINCH ROLLER LEVER	2	RIGHT	
29	VKS5325-00F	F.F/REW.ARM ASS'Y	2		
30	VKS5328-002	REEL MOTOR GEAR	2		
31	VKS5327-003	THRUST PLATE	2		
32	VKY4628-002	SPRING	2		
33	VKP4219-00C	PINCH ROLLER ASS'Y	2	RIGHT	
34	VKW4981-001	TORSION SPRING	2	RIGHT	
35	VKW4932-005	TORSION SPRING	2	RIGHT	
36	E308162-001	EJECT LEVER	2		
37	E407214-001	SPECIAL SCREW	4		
38	VKS3550-00B	HEAD MOUNT ASS'Y	1	(A)	
39	VMW2362-001	CIRCUIT BOARD	2		
40	VKS3485-002	HEAD GEAR	2		
41	VMC0234-R08	CONNECTOR	1	(B)	
42	VMC0234-R07	CONNECTOR	2		
43	DN6851A	I.C.	2		
44	VKS3487-002	IC HOLDER	2		
45	VKS3587-00A	CAM SWITCH ASS'Y	2		
46	WDL163525-4	WASHER	1		
47	VKR4631-003	IDLER PULLEY	1		
48	VKM3618-00A	FM BRACKET	1		
49	SDSF2605Z	SCREW	4	CHASSIS BASE-FM BRACKET	
50	MMI-6H2LWSK	MOTOR	1	CAPSTAN	
51	VKR4632-002	MOTOR PULLEY	1		
52	SPSP2603Z	SCREW	2		
53	VDM007P-024I	HEAD WIRE	1	(B)	
54	VDM003P-040I	HEAD WIRE	1	(A)	
55	VMC0234-R04	CONNECTOR	1	(A)	
56	E407304-001	SPRING	2		

Printed Circuit Board Ass'y and Parts List

■ENJ-072☐ Power Supply & Deck PC Board Ass'y

Note : ENJ-072 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENJ-072 [D]	Australia
ENJ-072 [E]	Scandinavia Continental Europe
ENJ-072 [F] BS	the U.K.
ENJ-072 [G]	Germany , Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q201	DTC144ES	SILICON	ROHM	
	Q202	DTC144ES	SILICON	ROHM	
	Q203	2SK373(O,Y)	F.E.T	TOSHIBA	
	Q204	2SK373(O,Y)	F.E.T	TOSHIBA	
	Q221	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q222	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q223	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q224	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q225	DTC114YS	SILICON	ROHM	
	Q226	DTC114YS	SILICON	ROHM	
	Q227	DTC114YS	SILICON	ROHM	
	Q228	DTC114YS	SILICON	ROHM	
	Q271	DTC144ES	SILICON	ROHM	
	Q272	DTA144ES	SILICON	ROHM	
	Q273	DTA144ES	SILICON	ROHM	
	Q274	DTC144ES	SILICON	ROHM	
	Q275	2SD2144S(VW)	SILICON	ROHM	
	Q276	2SD2144S(VW)	SILICON	ROHM	
	Q277	DTC144ES	SILICON	ROHM	
	Q281	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q282	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q305	DTC144TS	SILICON	ROHM	
	Q306	DTC144TS	SILICON	ROHM	
	Q307	DTC144TS	SILICON	ROHM	
	Q308	DTC144TS	SILICON	ROHM	
	Q309	DTC144TS	SILICON	ROHM	
	Q310	DTC144TS	SILICON	ROHM	
	Q311	DTC144TS	SILICON	ROHM	
	Q312	DTC144TS	SILICON	ROHM	
	Q335	2SC945A(P,Q)	SILICON	NEC	
	Q336	2SC945A(P,Q)	SILICON	NEC	
	Q337	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q338	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q339	DTC144ES	SILICON	ROHM	
	Q361	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q362	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q363	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q364	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q365	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q366	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q367	2SD2144S(VW)	SILICON	ROHM	
	Q368	2SD2144S(VW)	SILICON	ROHM	
	Q369	DTC144ES	SILICON	ROHM	
	Q393	2SD2144S(VW)	SILICON	ROHM	
	Q394	2SD2144S(VW)	SILICON	ROHM	
	Q395	DTA144ES	SILICON	ROHM	
	Q536	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q537	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q538	2SA933S(R,S)	SILICON	ROHM	
	Q539	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q551	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q552	2SD2061(F,G)	SILICON	ROHM	
	Q553	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q554	2SD2061(F,G)	SILICON	ROHM	
	Q555	2SB1187(F,G)	SILICON	ROHM	
	Q556	DTC144ES	SILICON	ROHM	
	Q557	DTA144ES	SILICON	ROHM	
	Q558	DTA144ES	SILICON	ROHM	
	Q559	DTC144ES	SILICON	ROHM	
	Q560	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q561	2SD2061(F,G)	SILICON	ROHM	
	Q562	2SA733A(P,Q)	SILICON	NEC	
	Q563	2SB1187(F,G)	SILICON	ROHM	
	Q571	DTC114YS	SILICON	ROHM	
	Q572	DTC143ZS	SILICON	ROHM	
	Q573	2SB1357(E,F)	SILICON	ROHM	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC201	BU4066B	I.C.	ROHM	
	IC202	UPC1228HA	I.C.	NEC	
	IC301	BA15218N	I.C.	ROHM	
	IC381	HA12136AT	I.C.	HITACHI	
	IC501	STK4141MK5	I.C.	SANYO	

⚠ SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D201	1SS119	SILICON	HITACHI	
	D202	1SS119	SILICON	HITACHI	
	D203	1SS119	SILICON	HITACHI	
	D204	1SS119	SILICON	HITACHI	
	D205	1SS119	SILICON	HITACHI	
	D206	1SS119	SILICON	HITACHI	
	D207	MTZ5.6JC	ZENER	ROHM	
	D208	MTZ5.6JC	ZENER	ROHM	
	D211	1SS119	SILICON	HITACHI	
	D212	1SS119	SILICON	HITACHI	
	D273	1SS119	SILICON	HITACHI	
	D291	1SS119	SILICON	HITACHI	
	D335	1SS119	SILICON	HITACHI	
	D501	1SS119	SILICON	HITACHI	
	D502	1SS119	SILICON	HITACHI	
	D537	1SS119	SILICON	HITACHI	
	D538	MTZ24JC	ZENER	ROHM	
	D539	ERB12-02RKL1	SILICON	KYOUDOU	
	D540	ERB12-02RKL1	SILICON	KYOUDOU	
	D541	ERB12-02RKL1	SILICON	KYOUDOU	
	D542	ERB12-02RKL1	SILICON	KYOUDOU	
	D551	MTZ11JC	ZENER	ROHM	
	D552	MTZ6.8JC	ZENER	ROHM	
	D553	MTZ5.6JC	ZENER	ROHM	
	D554	MTZ13JC	ZENER	ROHM	
	D555	MTZ13JC	ZENER	ROHM	
	D561	1SS119	SILICON	HITACHI	
	D572	1SS119	SILICON	HITACHI	
	D574	MTZ5.1JC	ZENER	ROHM	
	D575	1SS119	SILICON	HITACHI	
	D576	MTZ30JC	ZENER	ROHM	
	D577	1SR139-200	SILICON	ROHM	
	D578	1SR139-200	SILICON	ROHM	
	D579	MTZ5.1JC	ZENER	ROHM	
	D580	1SR139-200	SILICON	ROHM	
	D581	1SR139-200	SILICON	ROHM	
	D582	1SR139-200	SILICON	ROHM	
	D583	1SR139-200	SILICON	ROHM	
	D584	1SR139-200	SILICON	ROHM	
	D585	1SR139-200	SILICON	ROHM	
	D592	1SS119	SILICON	HITACHI	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C202	QCHB1EZ-223	0.022MF	25V	CERAMIC	G
	C203	QCHB1EZ-223	0.022MF	25V	CERAMIC	G
	C207	QETB1AM-476	47MF	10V	ELECTRO	
	C208	QETB1AM-476	47MF	10V	ELECTRO	
	C211	QCBB1HK-471	470PF	50V	CERAMIC	
	C212	QCBB1HK-471	470PF	50V	CERAMIC	
	C213	QCXB1CM-122	1200PF	16V	CERAMIC	
	C214	QCXB1CM-122	1200PF	16V	CERAMIC	
	C219	QETB1HM-225	2.2MF	50V	ELECTRO	
	C220	QETB1HM-225	2.2MF	50V	ELECTRO	
	C221	QETB1HM-225	2.2MF	50V	ELECTRO	
	C222	QETB1HM-225	2.2MF	50V	ELECTRO	
	C223	QCBB1HK-101	100PF	50V	CERAMIC	
	C224	QCBB1HK-101	100PF	50V	CERAMIC	
	C225	QEK51CM-107	100MF	16V	ELECTRO	
	C226	QEK51CM-107	100MF	16V	ELECTRO	
	C227	QFLB1HJ-822	8200PF	50V	MYLAR	
	C228	QFLB1HJ-822	8200PF	50V	MYLAR	
	C231	QETB1CM-477	470MF	16V	ELECTRO	
	C233	QCS21HJ-101	100PF	50V	CERAMIC	
	C234	QCS21HJ-101	100PF	50V	CERAMIC	
	C241	QCHB1EZ-223	0.022MF	25V	CERAMIC	D
	C241	QCHB1EZ-223	0.022MF	25V	CERAMIC	E
	C241	QCHB1EZ-223	0.022MF	25V	CERAMIC	FBS
	C242	QCHB1EZ-223	0.022MF	25V	CERAMIC	D
	C242	QCHB1EZ-223	0.022MF	25V	CERAMIC	E
	C242	QCHB1EZ-223	0.022MF	25V	CERAMIC	FBS
	C253	QCXB1CM-182	1800PF	16V	CERAMIC	
	C254	QCXB1CM-182	1800PF	16V	CERAMIC	
	C281	QEK51HM-105G	1MF	50V	ELECTRO	
	C282	QFLB1HJ-223	0.022MF	50V	MYLAR	
	C283	QFLB1HJ-223	0.022MF	50V	MYLAR	
	C291	QETB1AM-476	47MF	10V	ELECTRO	
	C301	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C302	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C305	QETB1HM-225	2.2MF	50V	ELECTRO	
	C306	QETB1HM-225	2.2MF	50V	ELECTRO	
	C307	QETB1HM-225	2.2MF	50V	ELECTRO	
	C308	QETB1HM-225	2.2MF	50V	ELECTRO	
	C311	QETB1EM-226	22MF	25V	ELECTRO	
	C312	QETB1EM-226	22MF	25V	ELECTRO	
	C313	QCSB1HJ-470	47PF	50V	CERAMIC	
	C314	QCSB1HJ-470	47PF	50V	CERAMIC	
	C315	QFLB1HJ-682	6800PF	50V	MYLAR	
	C316	QFLB1HJ-682	6800PF	50V	MYLAR	

⚠ SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C317	QFLB1HJ-562	5600PF	50V	MYLAR	
	C318	QFLB1HJ-562	5600PF	50V	MYLAR	
	C319	QFLB1HJ-822	8200PF	50V	MYLAR	
	C320	QFLB1HJ-822	8200PF	50V	MYLAR	
	C321	QFLB1HJ-122	1200PF	50V	MYLAR	
	C322	QFLB1HJ-122	1200PF	50V	MYLAR	
	C323	QFLB1HJ-682	6800PF	50V	MYLAR	
	C324	QFLB1HJ-682	6800PF	50V	MYLAR	
	C325	QETB1CM-107	100MF	16V	ELECTRO	
	C326	QETB1CM-107	100MF	16V	ELECTRO	
	C335	QCS21HJ-101	100PF	50V	CERAMIC	
	C336	QCS21HJ-101	100PF	50V	CERAMIC	
	C337	QEK51EM-106	10MF	25V	ELECTRO	
	C338	QEK51EM-476	47MF	25V	ELECTRO	
	C339	QEK51HM-105G	1MF	50V	ELECTRO	
	C340	QETB1HM-105	1MF	50V	ELECTRO	
	C341	QCBB1HK-561	560PF	50V	CERAMIC	
	C342	QFP81HJ-822	8200PF	50V	POLY	
	C343	QFLB1HJ-123	0.012MF	50V	MYLAR	
	C344	QFLB1HJ-222	2200PF	50V	MYLAR	
	C345	QFLB1HJ-222	2200PF	50V	MYLAR	
	C346	QFLB1HJ-682	6800PF	50V	MYLAR	
	C347	QCS21HJ-101	100PF	50V	CERAMIC	
	C348	QCS21HJ-101	100PF	50V	CERAMIC	
	C351	QETB1HM-106	10MF	50V	ELECTRO	
	C355	QFLB1HJ-473	0.047MF	50V	MYLAR	
	C356	QFLB1HJ-473	0.047MF	50V	MYLAR	
	C381	QETB1HM-105	1MF	50V	ELECTRO	
	C382	QETB1HM-105	1MF	50V	ELECTRO	
	C383	QETB1HM-475	4.7MF	50V	ELECTRO	
	C384	QETB1HM-475	4.7MF	50V	ELECTRO	
	C385	QETB1HM-105	1MF	50V	ELECTRO	
	C386	QETB1HM-105	1MF	50V	ELECTRO	
	C387	QETB1HM-475	4.7MF	50V	ELECTRO	
	C388	QETB1HM-475	4.7MF	50V	ELECTRO	
	C389	QFV81HJ-224	0.22MF	50V	T.FILM	
	C390	QFV81HJ-224	0.22MF	50V	T.FILM	
	C391	QETB1HM-475	4.7MF	50V	ELECTRO	
	C392	QETB1HM-475	4.7MF	50V	ELECTRO	
	C393	QETB1CM-107	100MF	16V	ELECTRO	
	C394	QETB1HM-475	4.7MF	50V	ELECTRO	
	C397	QETB1EM-226	22MF	25V	ELECTRO	
	C501	EEZ5009-106	10MF		ELECTRO	
	C502	EEZ5009-106	10MF		ELECTRO	
	C503	QCBB1HK-471	470PF	50V	CERAMIC	D
	C503	QCBB1HK-471	470PF	50V	CERAMIC	E
	C503	QCBB1HK-471	470PF	50V	CERAMIC	FBS
	C504	QCBB1HK-471	470PF	50V	CERAMIC	D
	C504	QCBB1HK-471	470PF	50V	CERAMIC	E
	C504	QCBB1HK-471	470PF	50V	CERAMIC	FBS
	C505	QCBB1HK-221	220PF	50V	CERAMIC	
	C506	QCBB1HK-221	220PF	50V	CERAMIC	
	C507	QETB1EM-107	100MF	25V	ELECTRO	
	C508	QETB1EM-107	100MF	25V	ELECTRO	
	C509	QCSB1HJ-100	10PF	50V	CERAMIC	
	C510	QCSB1HJ-100	10PF	50V	CERAMIC	
	C511	QETB1HM-226	22MF	50V	ELECTRO	
	C512	QETB1HM-226	22MF	50V	ELECTRO	
	C513	QETB1HM-476	47MF	50V	ELECTRO	
	C514	QETB1HM-106	10MF	50V	ELECTRO	
	C515	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C516	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C517	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C518	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C536	QETB1CM-476	47MF	16V	ELECTRO	
	C537	QETB1EM-226	22MF	25V	ELECTRO	
	C538	EET4202-228E	2200MF		ELECTRO	
	C539	EET4202-228E	2200MF		ELECTRO	
	C540	QFLB2AJ-103	0.01MF	100V	MYLAR	D
	C540	QFLB2AJ-103	0.01MF	100V	MYLAR	E
	C540	QFLB2AJ-103	0.01MF	100V	MYLAR	FBS
	C540	QFV82AJ-104	0.1MF	100V	T.FILM	G
	C541	QFLB2AJ-103	0.01MF	100V	MYLAR	D
	C541	QFLB2AJ-103	0.01MF	100V	MYLAR	E
	C541	QFLB2AJ-103	0.01MF	100V	MYLAR	FBS
	C541	QFV82AJ-104	0.1MF	100V	T.FILM	G
	C542	QFLB2AJ-103	0.01MF	100V	MYLAR	D
	C542	QFLB2AJ-103	0.01MF	100V	MYLAR	E
	C542	QFLB2AJ-103	0.01MF	100V	MYLAR	FBS
	C542	QFV82AJ-104	0.1MF	100V	T.FILM	G
	C543	QFLB1HJ-103	0.01MF	50V	MYLAR	G
	C544	QFLB1HJ-103	0.01MF	50V	MYLAR	G
	C545	QCXB1CM-222	2200PF	16V	CERAMIC	G
	C546	QCXB1CM-222	2200PF	16V	CERAMIC	G
	C547	QCF21HP-223	0.022MF	50V	CERAMIC	G
	C548	QCF21HP-223	0.022MF	50V	CERAMIC	G
	C550	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C551	QETB1EM-226	22MF	25V	ELECTRO	
	C552	QETB1CM-476	47MF	16V	ELECTRO	
	C553	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C554	QETB1AM-476	47MF	10V	ELECTRO	
	C555	QETB1AM-476	47MF	10V	ELECTRO	
	C556	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C557	QETB1EM-226	22MF	25V	ELECTRO	
	C558	QCVB1CM-103	0.01MF	16V	CERAMIC	

⚠ SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C559	QETB1CM-476	47MF	16V	ELECTRO	
	C560	QETB1HM-106	10MF	50V	ELECTRO	
	C561	QETB1HM-106	10MF	50V	ELECTRO	
	C562	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C563	QETB1HM-106	10MF	50V	ELECTRO	
	C564	QETB1EM-226	22MF	25V	ELECTRO	
	C565	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C566	QETB1EM-226	22MF	25V	ELECTRO	
	C571	QETB1HM-225	2.2MF	50V	ELECTRO	
	C572	QETB1HM-106	10MF	50V	ELECTRO	
	C573	QCGB1HK-102	1000PF	50V	CERAMIC	
	C574	QETB1HM-226	22MF	50V	ELECTRO	
	C575	QETB1HM-226	22MF	50V	ELECTRO	
	C576	QETB1JM-476	47MF	63V	ELECTRO	
	C577	QETB1JM-107	100MF	63V	ELECTRO	
	C578	QETB1HM-475	4.7MF	50V	ELECTRO	
	C579	QFLB2AJ-103	0.01MF	100V	MYLAR	
	C580	QFLB2AJ-103	0.01MF	100V	MYLAR	
	C581	QFLB2AJ-103	0.01MF	100V	MYLAR	
	C582	EET3501-228T	2200MF		ELECTRO	
	C583	EET3501-228T	2200MF		ELECTRO	
	C591	QETB1HM-106	10MF	50V	ELECTRO	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R201	QRD167J-224	220K	1/6W	CARBON	
	R202	QRD167J-224	220K	1/6W	CARBON	
	R203	QRD167J-512	5.1K	1/6W	CARBON	
	R204	QRD167J-512	5.1K	1/6W	CARBON	
	R205	QRD167J-471	470	1/6W	CARBON	
	R206	QRD167J-471	470	1/6W	CARBON	
	R207	QRD167J-100	10	1/6W	CARBON	
	R208	QRD167J-100	10	1/6W	CARBON	
	R209	QRD167J-105	1M	1/6W	CARBON	
	R210	QRD167J-105	1M	1/6W	CARBON	
	R211	QRD167J-512	5.1K	1/6W	CARBON	
	R212	QRD167J-512	5.1K	1/6W	CARBON	
	R213	QRD167J-475	4.7M	1/6W	CARBON	
	R214	QRD167J-475	4.7M	1/6W	CARBON	
	R225	QRD167J-470	47	1/6W	CARBON	
	R226	QRD167J-470	47	1/6W	CARBON	
	R227	QRD167J-334	330K	1/6W	CARBON	
	R228	QRD167J-334	330K	1/6W	CARBON	
	R229	QRD167J-432	4.3K	1/6W	CARBON	
	R230	QRD167J-432	4.3K	1/6W	CARBON	
	R231	QRD167J-272	2.7K	1/6W	CARBON	
	R232	QRD167J-272	2.7K	1/6W	CARBON	
	R233	QRD167J-272	2.7K	1/6W	CARBON	
	R234	QRD167J-272	2.7K	1/6W	CARBON	
	R235	QRD167J-223	22K	1/6W	CARBON	
	R236	QRD167J-223	22K	1/6W	CARBON	
	R237	QRD167J-752	7.5K	1/6W	CARBON	
	R238	QRD167J-752	7.5K	1/6W	CARBON	
	R239	QRD167J-105	1M	1/6W	CARBON	
	R240	QRD167J-105	1M	1/6W	CARBON	
	R241	QRD167J-105	1M	1/6W	CARBON	
	R242	QRD167J-105	1M	1/6W	CARBON	
	R243	QRD167J-471	470	1/6W	CARBON	
	R244	QRD167J-472	4.7K	1/6W	CARBON	
	R245	QRD167J-472	4.7K	1/6W	CARBON	
	R271	QRD167J-103	10K	1/6W	CARBON	
	R272	QRD167J-472	4.7K	1/6W	CARBON	
	R273	QRD167J-472	4.7K	1/6W	CARBON	
	R277	QRD167J-103	10K	1/6W	CARBON	
	R278	QRD167J-103	10K	1/6W	CARBON	
	R281	QRD167J-104	100K	1/6W	CARBON	
	R282	QRD167J-105	1M	1/6W	CARBON	
	R283	QRD167J-103	10K	1/6W	CARBON	
	R284	QRD167J-105	1M	1/6W	CARBON	
	R285	QRD167J-683	68K	1/6W	CARBON	
	R286	QRD167J-104	100K	1/6W	CARBON	
	R287	QRD167J-104	100K	1/6W	CARBON	
	R291	QRD167J-104	100K	1/6W	CARBON	
	R292	QRD167J-274	270K	1/6W	CARBON	
	R293	QRD167J-562	5.6K	1/6W	CARBON	
	R301	QRD167J-223	22K	1/6W	CARBON	
	R302	QRD167J-223	22K	1/6W	CARBON	
	R305	QRD167J-683	68K	1/6W	CARBON	
	R306	QRD167J-683	68K	1/6W	CARBON	
	R307	QRD167J-153	15K	1/6W	CARBON	
	R308	QRD167J-153	15K	1/6W	CARBON	
	R309	QRD167J-223	22K	1/6W	CARBON	
	R310	QRD167J-223	22K	1/6W	CARBON	
	R313	QRD167J-242	2.4K	1/6W	CARBON	
	R314	QRD167J-242	2.4K	1/6W	CARBON	
	R315	QRD167J-101	100	1/6W	CARBON	
	R316	QRD167J-101	100	1/6W	CARBON	
	R317	QRD167J-391	390	1/6W	CARBON	
	R318	QRD167J-391	390	1/6W	CARBON	
	R319	QRD167J-152	1.5K	1/6W	CARBON	

⚠ SAFETY PARTS

MC-Service

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R520	QRD167J-152	1.5K	1/6W	CARBON	
	R321	QRD167J-432	4.3K	1/6W	CARBON	
	R322	QRD167J-432	4.3K	1/6W	CARBON	
	R323	QRD167J-152	1.5K	1/6W	CARBON	
	R324	QRD167J-152	1.5K	1/6W	CARBON	
	R325	QRD167J-104	100K	1/6W	CARBON	
	R326	QRD167J-104	100K	1/6W	CARBON	
	R327	QRD167J-152	1.5K	1/6W	CARBON	
	R328	QRD167J-152	1.5K	1/6W	CARBON	
	R329	QRD167J-392	3.9K	1/6W	CARBON	
	R330	QRD167J-392	3.9K	1/6W	CARBON	
	R331	QRD161J-221	220	1/6W	CARBON	
	R332	QRD161J-221	220	1/6W	CARBON	
	R337	QRD167J-473	47K	1/6W	CARBON	
	R338	QRD167J-473	47K	1/6W	CARBON	
⚠	R339	QRD14CJ-5R6S	5.6	1/4W	UNF.CARBON	
	R340	QRD167J-472	4.7K	1/6W	CARBON	
	R341	QRD167J-104	100K	1/6W	CARBON	
	R342	QRD167J-332	3.3K	1/6W	CARBON	
	R343	QRD167J-181	180	1/6W	CARBON	
	R344	QRD167J-201	200	1/6W	CARBON	
⚠	R345	QRZ0077-100	10	1/4W	FUSIBLE	
	R346	QRD167J-103	10K	1/6W	CARBON	
	R350	QRD167J-105	1M	1/6W	CARBON	
	R351	QRD167J-243	24K	1/6W	CARBON	
	R352	QRD167J-243	24K	1/6W	CARBON	
	R353	QRD167J-302	3K	1/6W	CARBON	
	R354	QRD167J-302	3K	1/6W	CARBON	
	R355	QRD167J-561	560	1/6W	CARBON	
	R356	QRD167J-561	560	1/6W	CARBON	
	R357	QRD167J-223	22K	1/6W	CARBON	
	R358	QRD167J-223	22K	1/6W	CARBON	
	R359	QRD167J-332	3.3K	1/6W	CARBON	
	R360	QRD167J-332	3.3K	1/6W	CARBON	
	R361	QRD167J-473	47K	1/6W	CARBON	
	R362	QRD167J-473	47K	1/6W	CARBON	
	R363	QRD167J-223	22K	1/6W	CARBON	
	R364	QRD167J-223	22K	1/6W	CARBON	
	R365	QRD167J-472	4.7K	1/6W	CARBON	
	R366	QRD167J-472	4.7K	1/6W	CARBON	
	R371	QRD167J-103	10K	1/6W	CARBON	
	R372	QRD167J-103	10K	1/6W	CARBON	
	R373	QRD167J-684	680K	1/6W	CARBON	
	R374	QRD167J-684	680K	1/6W	CARBON	
	R381	QRD167J-153	15K	1/6W	CARBON	
	R382	QRD167J-153	15K	1/6W	CARBON	
	R383	QRD167J-822	8.2K	1/6W	CARBON	
	R384	QRD167J-822	8.2K	1/6W	CARBON	
⚠	R385	QRZ0077-220	22	1/4W	FUSIBLE	
	R386	QRD167J-183	18K	1/6W	CARBON	
	R387	QRD167J-103	10K	1/6W	CARBON	
	R388	QRD167J-103	10K	1/6W	CARBON	
	R389	QRD167J-562	5.6K	1/6W	CARBON	
	R390	QRD167J-562	5.6K	1/6W	CARBON	
	R391	QRD167J-822	8.2K	1/6W	CARBON	
	R392	QRD167J-822	8.2K	1/6W	CARBON	
	R393	QRD167J-103	10K	1/6W	CARBON	
	R394	QRD167J-103	10K	1/6W	CARBON	
	R395	QRD167J-103	10K	1/6W	CARBON	
	R396	QRD167J-103	10K	1/6W	CARBON	
	R397	QRD167J-102	1K	1/6W	CARBON	
	R501	QRD167J-102	1K	1/6W	CARBON	
	R502	QRD167J-102	1K	1/6W	CARBON	
	R503	QRD167J-104	100K	1/6W	CARBON	
	R504	QRD167J-104	100K	1/6W	CARBON	
	R505	ERD141J-471S	470	1/4W	CARBON	
	R506	ERD141J-471S	470	1/4W	CARBON	
	R507	QRD167J-471	470	1/6W	CARBON	
	R508	QRD167J-471	470	1/6W	CARBON	
	R509	QRD167J-104	100K	1/6W	CARBON	
	R510	QRD167J-104	100K	1/6W	CARBON	
	R511	QRD167J-242	2.4K	1/6W	CARBON	
	R512	QRD167J-242	2.4K	1/6W	CARBON	
	R513	QRD167J-242	2.4K	1/6W	CARBON	
	R514	QRD167J-242	2.4K	1/6W	CARBON	
⚠	R515	QRX012J-R22AM	0.22	1W	M.FILM	
⚠	R516	QRX012J-R22AM	0.22	1W	M.FILM	
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE	
⚠	R518	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R519	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R520	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R521	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R522	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R527	QRD167J-104	100K	1/6W	CARBON	
	R528	QRD167J-104	100K	1/6W	CARBON	
	R529	QRD167J-103	10K	1/6W	CARBON	
	R530	QRD167J-154	150K	1/6W	CARBON	
	R531	QRD167J-473	47K	1/6W	CARBON	
⚠	R532	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R533	QRD14CJ-222S	2.2K	1/4W	UNF.CARBON	
⚠	R534	QRD14CJ-222S	2.2K	1/4W	UNF.CARBON	
	R536	QRD167J-472	4.7K	1/6W	CARBON	
	R537	QRD167J-104	100K	1/6W	CARBON	
	R538	QRD167J-104	100K	1/6W	CARBON	
	R539	QRD167J-103	10K	1/6W	CARBON	

⚠ SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R540	QRD167J-104	100K	1/6W	CARBON	
	R541	QRD167J-103	10K	1/6W	CARBON	
	R542	QRD167J-222	2.2K	1/6W	CARBON	
	R543	QRD167J-823	82K	1/6W	CARBON	
	R544	QRD167J-104	100K	1/6W	CARBON	
⚠	R545	QRG022J-391AM	390	2W	O.M.FILM	
	R546	QRD167J-152	1.5K	1/6W	CARBON	
⚠	R547	QRD14CJ-100S	10	1/4W	UNF.CARBON	G
⚠	R548	QRD14CJ-100S	10	1/4W	UNF.CARBON	G
	R551	QRD167J-332	3.3K	1/6W	CARBON	
	R552	QRD167J-392	3.9K	1/6W	CARBON	
	R553	QRD167J-472	4.7K	1/6W	CARBON	
	R554	QRD167J-472	4.7K	1/6W	CARBON	
	R555	QRD167J-472	4.7K	1/6W	CARBON	
	R556	QRD167J-153	15K	1/6W	CARBON	
	R557	QRD167J-103	10K	1/6W	CARBON	
	R558	QRD167J-332	3.3K	1/6W	CARBON	
	R559	QRD167J-222	2.2K	1/6W	CARBON	
⚠	R561	QRZ0077-8R2	8.2	1/4W	FUSIBLE	
⚠	R562	QRZ0077-8R2	8.2	1/4W	FUSIBLE	
	R572	QRD167J-103	10K	1/6W	CARBON	
	R573	QRD167J-102	1K	1/6W	CARBON	
	R574	QRD167J-103	10K	1/6W	CARBON	
	R575	QRD167J-103	10K	1/6W	CARBON	
	R576	QRD167J-562	5.6K	1/6W	CARBON	
⚠	R577	PTH61G25AR4R7M			FUSIBLE	
⚠	R581	QRX022J-2R2AM	2.2	2W	M.FILM	
⚠	R582	QRX022J-2R2AM	2.2	2W	M.FILM	
⚠	R591	QRD14CJ-222S	2.2K	1/4W	UNF.CARBON	
⚠	R592	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R598	QRZ0077-100	10	1/4W	FUSIBLE	
	VR203	QVPA601-104A	100K		VARIABLE	
	VR204	QVPA601-104A	100K		VARIABLE	
	VR205	QVPA601-104A	100K		VARIABLE	
	VR206	QVPA601-104A	100K		VARIABLE	
	VR221	QVPA601-201A	200		VARIABLE	
	VR222	QVPA601-201A	200		VARIABLE	
	VR223	QVPA601-201A	200		VARIABLE	
	VR224	QVPA601-201A	200		VARIABLE	
	VR335	QVPA601-204A	200K		VARIABLE	
	VR336	QVPA601-204A	200K		VARIABLE	
	VR367	QVPA601-503A	50K		VARIABLE	
	VR368	QVPA601-503A	50K		VARIABLE	

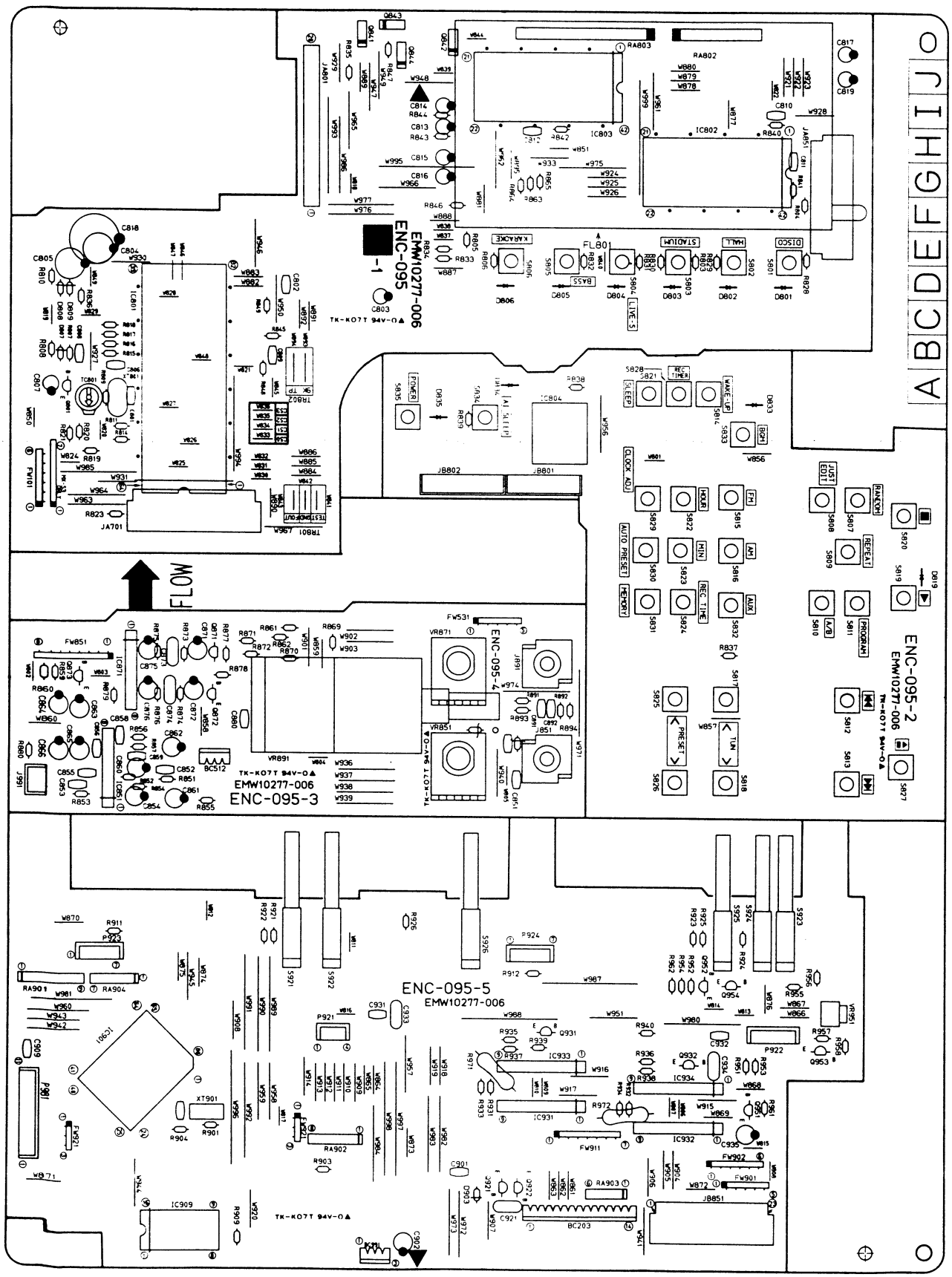
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J204	EMV7125-006R	CONNECTOR(6PIN) BATTERY	
	J511	EMV7125-008R	CONNECTOR(8PIN) AMPLIFIER	
	J512	EMV5109-003B	PLUG ASSY(3PIN) SIGNAL PATH	
	J521	EMV7125-011R	CONNECTOR(11PIN) REGULATOR	
	J531	EMV7122-005	CONNECTOR(5PIN) TO HEAD PHONE	
	J541	EMB90TV-402A	SPEAKER TERMINAL	
	J901	EMV7122-005	CONNECTOR(5PIN) FL.-30V	
	L221	EQL2106-223	INDUCTOR	
	L222	EQL2106-223	INDUCTOR	
	L223	EQL4004-101	INDUCTOR	G
	L224	EQL4004-101	INDUCTOR	G
	L301	EQL2106-562	INDUCTOR	
	L302	EQL2106-562	INDUCTOR	
	L335	ENZ6002-010	OSCILLATOR COIL	
	L347	EQL2106-223	INDUCTOR	
	L348	EQL2106-223	INDUCTOR	
	L501	EQL0001-R45	INDUCTOR	
	L502	EQL0001-R45	INDUCTOR	
	P201	TTL25V-003	CONNECTOR(3PIN) A HEAD WIRE	
	P202	TTL25V-007	CONNECTOR(7PIN) B HEAD WIRE	
	P203	EMV5109-014A	PLUG ASSY(14PIN) DECK CONTROL	
	P204	EMV5125-006	PLUG ASSY(6PIN) ENJ-072-1	
	P511	EMV5125-008	PLUG ASSY(8PIN) TO AMPLIFIER	
	P521	EMV5125-011	PLUG ASSY(11PIN) TO REGULATOR	
	S335	QSS7A12-E01	SLIDE SWITCH(BEET CUT)	
	EP201	E70225-002	EARTH PLATE	
	FS547	E3400-431	FELT SPACER	G
	FS548	E3400-431	FELT SPACER	G
	FT001	VMZ0087-001	FUSE CLIP	
	FT002	VMZ0087-001	FUSE CLIP	
	FT003	VMZ0087-001	FUSE CLIP	
	FT004	VMZ0087-001	FUSE CLIP	
	FT005	VMZ0087-001	FUSE CLIP	
	FT006	VMZ0087-001	FUSE CLIP	
	FW205	EWR358-13LST	FLAT WIRE(5PIN) PLAY/REC PATH	
	FW501	EWR704-13LST	FLAT WIRE(9PIN) TRANS SECONDARY	
	FW601	EWR36E-30LST	FLAT WIRE(6PIN) TO CD PCB	
	JT501	EMV7122-005	CONNECTOR(5PIN) TO SECONDARY	
	JT502	EMV7122-004	CONNECTOR(4PIN) TO SECONDARY	
	JT902	EMV7122-103	CONNECTOR(3PIN) PATH OF J902	
	JT903	EMV7122-103	CONNECTOR(3PIN) PATH OF J902	
	RY501	ESK8D24-212	RELAY	
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	

⚠ SAFETY PARTS

■ENC-095☐ Front & Deck Controller PC Board Ass'y

Note : ENC-095 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENC-095 [B]	Scandinavia Continenral Europe
ENC-095 [C]	the U.K.
ENC-095 [H]	Australia
ENC-095 [I]	Italy
ENC-095 [J]	Germany

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	Q801	DTC114YS	SILICON		ROHM	
	Q841	DTC144EFF	SILICON		ROHM	
	Q842	DTC144EFF	SILICON		ROHM	
	Q843	DTC144EFF	SILICON		ROHM	
	Q844	DTA114YFF	SILICON		ROHM	
	Q871	2SD2144S(VW)	SILICON		ROHM	
	Q872	2SD2144S(VW)	SILICON		ROHM	
	Q873	DTC144ES	SILICON		ROHM	
	Q931	DTC144ES	SILICON		ROHM	
	Q932	DTC144ES	SILICON		ROHM	
	Q951	2SC3311A(Q,R)	SILICON		MATSUSHITA	
	Q952	2SC3311A(Q,R)	SILICON		MATSUSHITA	
	Q953	2SA933S(R,S)	SILICON		ROHM	
	Q954	2SA933S(R,S)	SILICON		ROHM	

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC801	HD404019RC02S	I.C.	HITACHI	
	IC802	MSC7112-01SS	I.C.	NIHON DENSO	
	IC803	XR1095CP	I.C.	EXAR JAPAN	
	IC804	SPS-420-1	I.C.	SANYO	
	IC851	BA15218N	I.C.	ROHM	
	IC871	BA15218N	I.C.	ROHM	
	IC901	HD404719A28FS	I.C.	HITACHI	
	IC909	TC74HC595AP	I.C.	TOSHIBA	
	IC931	TA8409S	I.C.	TOSHIBA	
	IC932	TA8409S	I.C.	TOSHIBA	
	IC933	TA8409S	I.C.	TOSHIBA	
	IC934	TA8409S	I.C.	TOSHIBA	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D801	SLR-342MCA47	L.E.D.	ROHM	
	D802	SLR-342MCA47	L.E.D.	ROHM	
	D803	SLR-342MCA47	L.E.D.	ROHM	
	D804	SLR-342MCA47	L.E.D.	ROHM	
	D805	SLR-342MCA47	L.E.D.	ROHM	
	D806	SLR-342VC3F	L.E.D.	ROHM	
	D807	1SS119	SILICON	HITACHI	
	D808	1SS119	SILICON	HITACHI	
	D809	1SS119	SILICON	HITACHI	
	D819	SLR-342MCA47	L.E.D.	ROHM	
	D833	SLR-342MCA47	L.E.D.	ROHM	
	D834	SLR-342VC3F	L.E.D.	ROHM	
	D835	SLR-342VC3F	L.E.D.	ROHM	B
	D835	SLA-380LT	L.E.D.	ROHM	C
	D835	SLR-342VC3F	L.E.D.	ROHM	H
	D835	SLR-342VC3F	L.E.D.	ROHM	I
	D835	SLR-342VC3F	L.E.D.	ROHM	J
	D903	1SS119	SILICON	HITACHI	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C801	QCT30CH-120	12PF	50V	CERAMIC	
	C802	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C803	QEK51CM-107	100MF	16V	ELECTRO	
	C806	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C807	QEK51EM-475G	4.7MF	25V	ELECTRO	

⚠ SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C808	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C809	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C810	QCBB1HK-151	150PF	50V	CERAMIC	
	C811	QCBB1HK-471	470PF	50V	CERAMIC	
	C812	QCXB1CM-152	1500PF	16V	CERAMIC	
	C813	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C814	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C815	QEK51CM-106G	10MF	16V	ELECTRO	
	C816	QEK51CM-106G	10MF	16V	ELECTRO	
	C817	QEK51CM-106G	10MF	16V	ELECTRO	
	C818	QEA40HZ-10AB			ELECTRO	
	C819	QEK51HM-226	22MF	50V	ELECTRO	
	C851	QCGB1HK-102	1000PF	50V	CERAMIC	
	C852	QCGB1HK-102	1000PF	50V	CERAMIC	
	C853	QCBB1HK-101	100PF	50V	CERAMIC	
	C854	QETB1HM-106	10MF	50V	ELECTRO	
	C855	QCBB1HK-101	100PF	50V	CERAMIC	
	C856	QCBB1HK-101	100PF	50V	CERAMIC	
	C860	QETB1HM-106	10MF	50V	ELECTRO	
	C861	QETB1HM-106	10MF	50V	ELECTRO	
	C862	QETB1HM-106	10MF	50V	ELECTRO	
	C863	QETB1HM-106	10MF	50V	ELECTRO	
	C864	QETB1HM-106	10MF	50V	ELECTRO	
	C865	QETB1HM-106	10MF	50V	ELECTRO	
	C866	QETB1HM-106	10MF	50V	ELECTRO	
	C867	QCBB1HK-471	470PF	50V	CERAMIC	I
	C867	QCBB1HK-471	470PF	50V	CERAMIC	J
	C868	QCBB1HK-471	470PF	50V	CERAMIC	I
	C868	QCBB1HK-471	470PF	50V	CERAMIC	J
	C871	QETB1AM-476	47MF	10V	ELECTRO	
	C872	QETB1AM-476	47MF	10V	ELECTRO	
	C873	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C874	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C875	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C876	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C880	QCGB1HK-102	1000PF	50V	CERAMIC	
	C891	QCBB1HK-471	470PF	50V	CERAMIC	I
	C891	QCBB1HK-471	470PF	50V	CERAMIC	J
	C892	QCBB1HK-471	470PF	50V	CERAMIC	I
	C892	QCBB1HK-471	470PF	50V	CERAMIC	J
	C901	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C902	QETB1AM-107	100MF	10V	ELECTRO	
	C931	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C932	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C933	QFV81HJ-104	0.1MF	50V	T.FILM	
	C934	QFV81HJ-104	0.1MF	50V	T.FILM	
	C935	QETB1CM-107	100MF	16V	ELECTRO	
	C941	QCS21HJ-471	470PF	50V	CERAMIC	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R803	QRD161J-221	220	1/6W	CARBON	
	R804	QRD161J-221	220	1/6W	CARBON	
	R805	QRD161J-221	220	1/6W	CARBON	
	R806	QRD167J-331	330	1/6W	CARBON	
	R807	QRD167J-104	100K	1/6W	CARBON	
	R808	QRD167J-223	22K	1/6W	CARBON	
	R809	QRD167J-473	47K	1/6W	CARBON	
	R810	QRD167J-470	47	1/6W	CARBON	
	R811	QRD167J-102	1K	1/6W	CARBON	
	R814	QRD167J-103	10K	1/6W	CARBON	
	R815	QRD167J-103	10K	1/6W	CARBON	
	R816	QRD167J-103	10K	1/6W	CARBON	
	R817	QRD167J-103	10K	1/6W	CARBON	
	R818	QRD167J-103	10K	1/6W	CARBON	
	R819	QRD167J-222	2.2K	1/6W	CARBON	
	R820	QRD167J-222	2.2K	1/6W	CARBON	
	R821	QRD167J-222	2.2K	1/6W	CARBON	
	R823	QRD167J-103	10K	1/6W	CARBON	
	R828	QRD167J-682	6.8K	1/6W	CARBON	
	R829	QRD167J-222	2.2K	1/6W	CARBON	
	R830	QRD167J-112	1.1K	1/6W	CARBON	
	R831	QRD167J-681	680	1/6W	CARBON	
	R832	QRD167J-431	430	1/6W	CARBON	
	R833	QRD167J-331	330	1/6W	CARBON	
	R834	QRD167J-331	330	1/6W	CARBON	
	R835	QRD167J-151	150	1/6W	CARBON	B
	R835	QRD167J-471	470	1/6W	CARBON	C
	R835	QRD167J-151	150	1/6W	CARBON	H
	R835	QRD167J-151	150	1/6W	CARBON	I
	R835	QRD167J-151	150	1/6W	CARBON	J
	R836	QRD161J-221	220	1/6W	CARBON	
	R837	QRD167J-112	1.1K	1/6W	CARBON	
	R838	QRD167J-681	680	1/6W	CARBON	
	R839	QRD167J-431	430	1/6W	CARBON	
	R840	QRD167J-563	56K	1/6W	CARBON	
	R841	QRD167J-222	2.2K	1/6W	CARBON	
	R842	QRD167J-102	1K	1/6W	CARBON	
	R843	QRD167J-105	1M	1/6W	CARBON	
	R844	QRD167J-105	1M	1/6W	CARBON	
	R845	QRD167J-683	68K	1/6W	CARBON	

⚠ SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R846	QRD167J-222	2.2K 1/6W CARBON	
	R847	QRD167J-472	4.7K 1/6W CARBON	
	R848	QRD167J-103	10K 1/6W CARBON	
	R849	QRD167J-222	2.2K 1/6W CARBON	
	R851	QRD167J-102	1K 1/6W CARBON	
	R852	QRD167J-103	10K 1/6W CARBON	
	R853	QRD167J-104	100K 1/6W CARBON	
	R854	QRD167J-431	430 1/6W CARBON	
	R855	QRD167J-471	470 1/6W CARBON	
	R856	QRD167J-471	470 1/6W CARBON	
	R857	QRD167J-104	100K 1/6W CARBON	
	R859	QRD167J-472	4.7K 1/6W CARBON	
	R860	QRD167J-472	4.7K 1/6W CARBON	
	R861	QRD167J-103	10K 1/6W CARBON	
	R862	QRD167J-103	10K 1/6W CARBON	
	R863	QRD167J-102	1K 1/6W CARBON	
	R864	QRD167J-102	1K 1/6W CARBON	
	R865	QRD167J-102	1K 1/6W CARBON	
	R869	QRD167J-203	20K 1/6W CARBON	
	R870	QRD167J-203	20K 1/6W CARBON	
	R871	QRD167J-682	6.8K 1/6W CARBON	
	R872	QRD167J-682	6.8K 1/6W CARBON	
	R873	QRD167J-564	560K 1/6W CARBON	
	R874	QRD167J-564	560K 1/6W CARBON	
	R875	QRD167J-511	510 1/6W CARBON	
	R876	QRD167J-511	510 1/6W CARBON	
	R877	QRD167J-103	10K 1/6W CARBON	
	R878	QRD167J-103	10K 1/6W CARBON	
	R879	QRD167J-103	10K 1/6W CARBON	
	R880	QRD161J-221	220 1/6W CARBON	
	R891	QRD167J-681	680 1/6W CARBON	
	R892	QRD167J-681	680 1/6W CARBON	
	R893	QRD167J-681	680 1/6W CARBON	
	R894	QRD167J-681	680 1/6W CARBON	
	R901	QRD167J-105	1M 1/6W CARBON	
	R903	QRD167J-103	10K 1/6W CARBON	
	R904	QRD167J-471	470 1/6W CARBON	
	R909	QRD167J-103	10K 1/6W CARBON	
	R911	QRD167J-102	1K 1/6W CARBON	
	R921	QRD167J-103	10K 1/6W CARBON	
	R922	QRD167J-332	3.3K 1/6W CARBON	
	R923	QRD167J-242	2.4K 1/6W CARBON	
	R924	QRD167J-562	5.6K 1/6W CARBON	
	R925	QRD167J-153	15K 1/6W CARBON	
	R926	QRD167J-392	3.9K 1/6W CARBON	
	R931	QRD167J-153	15K 1/6W CARBON	
	R932	QRD167J-153	15K 1/6W CARBON	
	R933	QRD167J-133	13K 1/6W CARBON	
	R934	QRD167J-133	13K 1/6W CARBON	
	R935	QRD167J-563	56K 1/6W CARBON	
	R936	QRD167J-563	56K 1/6W CARBON	
	R937	QRD167J-123	12K 1/6W CARBON	
	R938	QRD167J-123	12K 1/6W CARBON	
	R939	QRD167J-682	6.8K 1/6W CARBON	
	R940	QRD167J-682	6.8K 1/6W CARBON	
	R941	QRD167J-101	100 1/6W CARBON	
	R951	QRD167J-184	180K 1/6W CARBON	
	R952	QRD167J-224	220K 1/6W CARBON	
	R953	QRD167J-224	220K 1/6W CARBON	
	R954	QRD167J-224	220K 1/6W CARBON	
	R955	QRD167J-683	68K 1/6W CARBON	
	R956	QRD167J-153	15K 1/6W CARBON	
	R957	QRD167J-273	27K 1/6W CARBON	
	R958	QRD167J-242	2.4K 1/6W CARBON	
	R961	QRD167J-103	10K 1/6W CARBON	
	R962	QRD167J-103	10K 1/6W CARBON	
⚠	R971	QRG022J-150AM	15 2W O.M.FILM	
⚠	R972	QRG022J-150AM	15 2W O.M.FILM	
	RA802	QRB085J-104	100K 1/8W R.NETWORK	
	RA803	QRB135J-104	100K 1/8W R.NETWORK	
	RA902	QRB079J-222	2.2K 1/10W R.NETWORK	
	RA904	QRB069J-103	10K 1/10W R.NETWORK	
	VR851	QVJB84B-E54C	50K VARIABLE	
	VR871	QVJB84W-E15B	100K VARIABLE	
	VR891	QVDB94B-E15C	100K VARIABLE	
	VR951	QVPG401-103	10K VARIABLE	

⚠ SAFETY PARTS

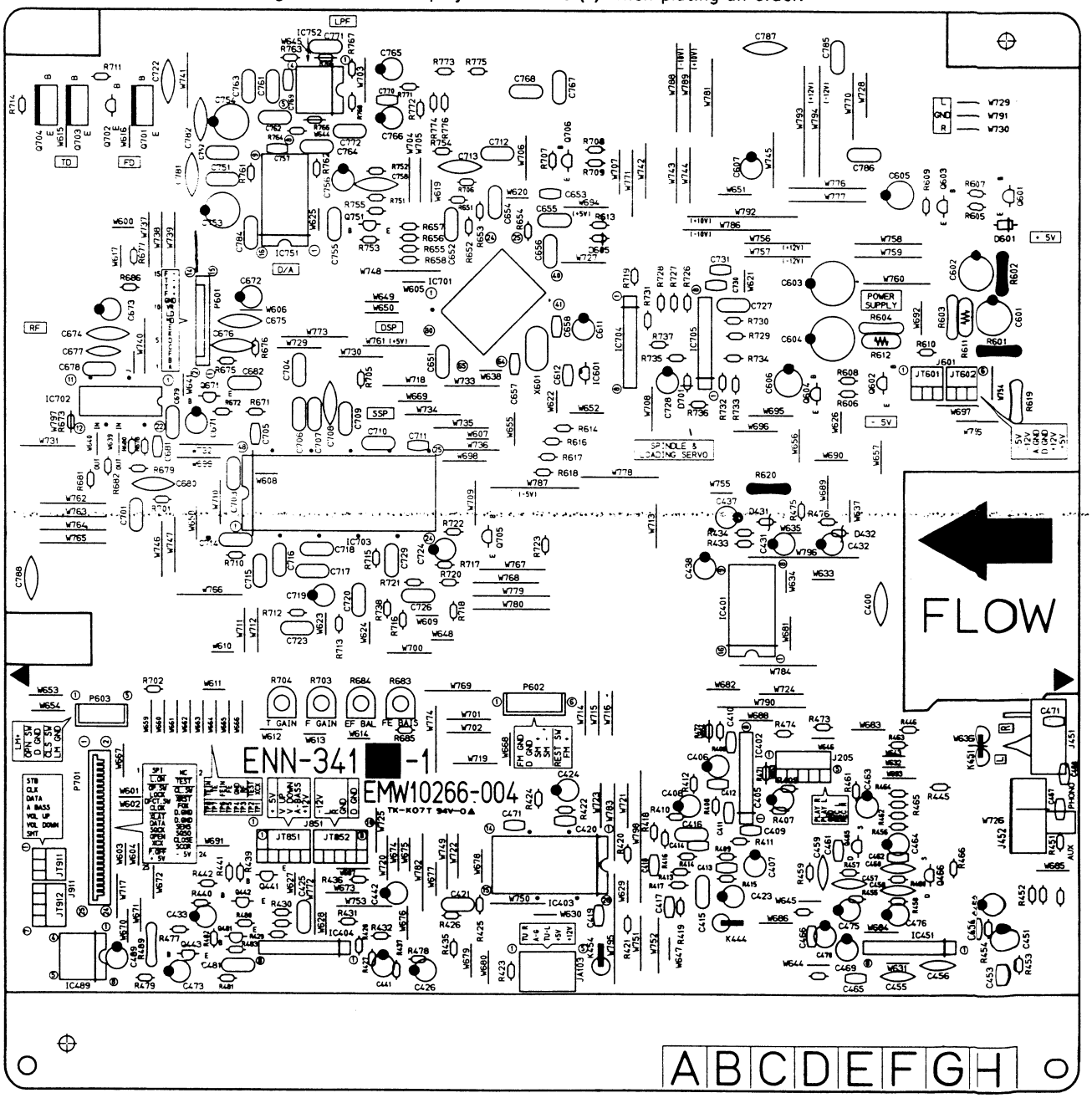
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J851	QMS3R30-E40S	MINI JACK(MIC JACK)	
	J891	QMS3R30-E40S	MINI JACK(HEADPHONE JACK)	
	J991	EMV5142-903	PLUG ASSY(3PIN) VOLUME LED	
	K901	ENZ8101-007	INDUCTOR	I
	K901	ENZ8101-007	INDUCTOR	J
	P921	VMC0234-P04	CONNECT TERMINAL(4PIN) A REEL/CAM	
	P922	VMC0234-P08	CONNECT TERMINAL(8PIN) B REEL/CAM	
	P923	VMC0234-P07	CONNECT TERMINAL(7PIN) A CAM SWITCH	
	P924	VMC0234-P07	CONNECT TERMINAL(7PIN) B CAM SWITCH	
	P981	EMV5142-911	PLUG ASSY(11PIN) TO DECK BUTTON	
	S801	ESP0001-023M	TACT SWITCH(DISCO)	
	S802	ESP0001-023M	TACT SWITCH(HALL)	
	S803	ESP0001-023M	TACT SWITCH(STADIUM)	
	S804	ESP0001-023M	TACT SWITCH(SURROUND)	
	S805	ESP0001-023M	TACT SWITCH(BASS)	
	S806	ESP0001-023M	TACT SWITCH(KARAOKE)	
	S807	ESP0001-023M	TACT SWITCH(RANDOM)	
	S808	ESP0001-023M	TACT SWITCH(JUST EDIT)	
	S809	ESP0001-023M	TACT SWITCH(REPEAT)	
	S810	ESP0001-023M	TACT SWITCH(A/B)	
	S811	ESP0001-023M	TACT SWITCH(PROGRAM)	
	S812	ESP0001-023M	TACT SWITCH(CD) BACK SKIP	
	S813	ESP0001-023M	TACT SWITCH(CD) FORWARD SKIP	
	S814	ESP0001-023M	TACT SWITCH(WAKE UP)	
	S815	ESP0001-023M	TACT SWITCH(FM)	
	S816	ESP0001-023M	TACT SWITCH(AM)	
	S817	ESP0001-023M	TACT SWITCH(TUNING DOWN)	
	S818	ESP0001-023M	TACT SWITCH(TUNING UP)	
	S819	ESP0001-023M	TACT SWITCH(PLAY/PAUSE)	
	S820	ESP0001-023M	TACT SWITCH(STOP)	
	S821	ESP0001-023M	TACT SWITCH(SLEEP)	
	S822	ESP0001-023M	TACT SWITCH(HOUR)	
	S823	ESP0001-023M	TACT SWITCH(MINUTE)	
	S824	ESP0001-023M	TACT SWITCH(REC TIME)	
	S825	ESP0001-023M	TACT SWITCH(PRESET DOWN)	
	S826	ESP0001-023M	TACT SWITCH(PRESET UP)	
	S827	ESP0001-023M	TACT SWITCH(OPEN/CLOSE)	
	S828	ESP0001-023M	TACT SWITCH(REC TIMER)	
	S829	ESP0001-023M	TACT SWITCH(CLOCK ADJ.)	
	S830	ESP0001-023M	TACT SWITCH(AUTO PRESET)	
	S831	ESP0001-023M	TACT SWITCH(MEMORY)	
	S832	ESP0001-023M	TACT SWITCH(AUX)	
	S833	ESP0001-023M	TACT SWITCH(TUNER ENTRY)	
	S834	ESP0001-023M	TACT SWITCH(AI SLEEP)	
	S835	ESP0001-023M	TACT SWITCH(POWER)	
	S921	ESB1100-007	LEAF SWITCH(A PACK)	
	S922	ESB1100-007	LEAF SWITCH(A CrO2)	
	S923	ESB1100-007	LEAF SWITCH(REV REC)	
	S924	ESB1100-007	LEAF SWITCH(B CrO2)	
	S925	ESB1100-007	LEAF SWITCH(B PACK)	
	S926	ESB1100-007	LEAF SWITCH(FWD REC)	
	BC203	EWS26E-A920	SOCKET WIRE(14PIN) TO DECK PCB	
	BC512	EWS293-0120	SOCKET WIRE(3PIN) TO AMPLIFIER	
	BC991	EWS323-A912	SOCKET WIRE(3PIN) TO VOLUME LED	
	FL801	ELU0001-142	FL TUBE	
	FS903	E3400-431	FELT SPACER	
	FS935	E3400-431	FELT SPACER	I
	FS935	E3400-431	FELT SPACER	J
	FS941	E3400-431	FELT SPACER	
	FW101	EWR37B-16LST	FLAT WIRE(6PIN) TO TUNER PCB	
	FW531	EWR35B-30LST	FLAT WIRE(5PIN) HEADPHONE PCB	
	FW851	EWR38B-20LST	FLAT WIRE(8PIN) FROM CD PCB	
	FW901	EWR35B-13LST	FLAT WIRE(5PIN) FL/-30V	
	FW902	EWR36B-13LST	FLAT WIRE(6PIN) INH/P.OFF	
	FW911	EWR37B-30LST	FLAT WIRE(7PIN) TO CD PCB	
	FW921	EWR33B-10SST	FLAT WIRE(3PIN)	
	JA701	EMV7123-025R	CONNECTOR(25PIN) TO CD PCB	
	JA801	EMV5123-L070	PLUG ASSY(20PIN) TO FRONT PCB	
	JA851	EMV7123-023R	CONNECTOR(23PIN) CD, TUNER CONTROLLER	
	JB801	EMV7124-009	CONNECTOR(9PIN) KEY MATRIX	
	JB802	EMV7124-010	CONNECTOR(10PIN) INDICATOR	
	JB851	EMV7123-023R	CONNECTOR(23PIN) SYSTEM CONTROLLER	
	TC801	ENZ1003-015	TRIMMER	
	XT801	ECX4194-304CF	RESONATOR	
	XT901	ECX0004-194KM	RESONATOR	

⚠ SAFETY PARTS

■ENN-341☐ CD & Source Selector PC Board Ass'y

Note : ENN-341 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENN-341 D	Australia , the U.K. Scandinavia Continental Europe
ENN-341 E	Germany , Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q441	2SD2144S(VW)	SILICON	ROHM	
	Q442	2SD2144S(VW)	SILICON	ROHM	
	Q443	DTA144ES	SILICON	ROHM	
	Q465	2SK163(L1)	F.E.T	NEC	
	Q466	2SK163(L1)	F.E.T	NEC	
	Q481	2SC3311A(Q,R)	SILICON	MATSUSHITA	
	Q601	2SA934(Q,R)	SILICON	ROHM	
	Q602	2SC3311A(Q,R)	SILICON	MATSUSHITA	
	Q603	DTC144ES	SILICON	ROHM	
	Q604	DTA144WS	SILICON	ROHM	
	Q671	2SA934(Q,R)	SILICON	ROHM	
	Q701	2SD2037(E,F)	SILICON	ROHM	
	Q702	2SA934(Q,R)	SILICON	ROHM	
	Q703	2SD2037(E,F)	SILICON	ROHM	
	Q704	2SB1357(E,F)	SILICON	ROHM	
	Q705	DTC144ES	SILICON	ROHM	
	Q706	2SC3311A(Q,R)	SILICON	MATSUSHITA	
	Q751	2SC535(B,C)	SILICON	HITACHI	

⚠ SAFETY PARTS

MC-Service

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	IC401	TC4052BP	I.C.		TOSHIBA	
	IC402	BA15218N	I.C.		ROHM	
	IC403	TC9164N	I.C.		TOSHIBA	
	IC404	BA15218N	I.C.		ROHM	
	IC451	VC4580LD	I.C.		DAINICHI	
	IC489	LB1639-CV	I.C.		SANYO	
	IC701	CXD2505Q	I.C.			
	IC702	CXA1571S	I.C.			
	IC703	CXA1372S	I.C.			
	IC704	STA341M(A)	I.C.		SANKEN	
	IC705	M5218AL	I.C.		MITSUBISHI	
	IC751	UPD6376CX	I.C.		NEC	
	IC752	BA15218	I.C.		ROHM	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D431	MTZ9.1JC	ZENER	ROHM	
	D432	MTZ9.1JC	ZENER	ROHM	
	D601	1SR139-200	SILICON	ROHM	
	D701	1SS119	SILICON	HITACHI	

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C405	QETB1HM-475	4.7MF	50V	ELECTRO	
	C406	QETB1HM-475	4.7MF	50V	ELECTRO	
	C407	QETB1HM-106	10MF	50V	ELECTRO	
	C408	QETB1HM-106	10MF	50V	ELECTRO	
	C409	QCSB1HJ-100	10PF	50V	CERAMIC	
	C410	QCSB1HJ-100	10PF	50V	CERAMIC	
	C411	QCSB1HJ-470	47PF	50V	CERAMIC	
	C412	QCSB1HJ-470	47PF	50V	CERAMIC	
	C413	QCBB1HK-181	180PF	50V	CERAMIC	
	C414	QCBB1HK-181	180PF	50V	CERAMIC	
	C415	QFLB1HJ-153	0.015MF	50V	MYLAR	
	C416	QFLB1HJ-153	0.015MF	50V	MYLAR	
	C417	QCXB1CM-222	2200PF	16V	CERAMIC	
	C418	QCXB1CM-222	2200PF	16V	CERAMIC	
	C419	QCBB1HK-471	470PF	50V	CERAMIC	
	C420	QCBB1HK-471	470PF	50V	CERAMIC	
	C421	QFLB1HJ-392	3900PF	50V	MYLAR	
	C423	QETB1HM-475	4.7MF	50V	ELECTRO	
	C424	QETB1HM-475	4.7MF	50V	ELECTRO	
	C425	QFLB1HJ-683	0.068MF	50V	MYLAR	
	C426	QETB1HM-475	4.7MF	50V	ELECTRO	
	C431	QETB1AM-476	47MF	10V	ELECTRO	
	C432	QETB1AM-476	47MF	10V	ELECTRO	
	C433	QETB1HM-225	2.2MF	50V	ELECTRO	
	C437	EEZ2505-107	100MF		ELECTRO	
	C438	EEZ2505-107	100MF		ELECTRO	
	C441	QETB1HM-106	10MF	50V	ELECTRO	
	C442	QETB1HM-106	10MF	50V	ELECTRO	
	C451	QETB1HM-475	4.7MF	50V	ELECTRO	
	C452	QETB1HM-475	4.7MF	50V	ELECTRO	
	C453	QCBB1HK-471	470PF	50V	CERAMIC	
	C454	QCBB1HK-471	470PF	50V	CERAMIC	
	C455	QCBB1HK-101	100PF	50V	CERAMIC	
	C456	QCBB1HK-101	100PF	50V	CERAMIC	
	C457	QCY21HK-682	6800PF	50V	CERAMIC	
	C458	QCY21HK-682	6800PF	50V	CERAMIC	
	C459	QCY21HK-182	1800PF	50V	CERAMIC	
	C460	QCY21HK-182	1800PF	50V	CERAMIC	
	C461	QCBB1HK-101	100PF	50V	CERAMIC	
	C462	QCBB1HK-101	100PF	50V	CERAMIC	
	C463	QETB1HM-475	4.7MF	50V	ELECTRO	
	C464	QETB1HM-475	4.7MF	50V	ELECTRO	
	C465	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C466	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C467	QCBB1HK-331	330PF	50V	CERAMIC	E
	C468	QCBB1HK-331	330PF	50V	CERAMIC	E
	C469	QETB1EM-476	47MF	25V	ELECTRO	
	C470	QETB1EM-476	47MF	25V	ELECTRO	
	C471	QCBB1HK-561	560PF	50V	CERAMIC	
	C472	QCVB1CM-103	0.01MF	16V	CERAMIC	E
	C473	QETB1HM-105	1MF	50V	ELECTRO	
	C475	QETB1EM-476	47MF	25V	ELECTRO	
	C476	QETB1EM-476	47MF	25V	ELECTRO	
	C481	QFLB1HJ-223	0.022MF	50V	MYLAR	
	C489	QETB1AM-476	47MF	10V	ELECTRO	
	C490	QCF21HP-223	0.022MF	50V	CERAMIC	E
	C601	QETB1CM-227	220MF	16V	ELECTRO	
	C602	QETB1CM-227	220MF	16V	ELECTRO	
	C603	QETB1CM-108	1000MF	16V	ELECTRO	
	C604	QETB1CM-108	1000MF	16V	ELECTRO	

⚠ SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C605	QETBOJM-227	220MF	6.3V	ELECTRO	
	C606	QETBOJM-107	100MF	6.3V	ELECTRO	
	C607	QETB1HM-106	10MF	50V	ELECTRO	
	C651	QCZ0202-155	1.5MF	25V	CERAMIC	
	C652	QFLB1HJ-473	0.047MF	50V	MYLAR	
	C653	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C654	QFLB1HJ-152	1500PF	50V	MYLAR	
	C655	QFLB1HJ-102	1000PF	50V	MYLAR	
	C656	QCZ0202-155	1.5MF	25V	CERAMIC	
	C657	QCT30CH-100	10PF	50V	CERAMIC	
	C658	QCT30CH-100	10PF	50V	CERAMIC	
	C671	QETB1AM-107	100MF	10V	ELECTRO	
	C672	QETB1HM-105	1MF	50V	ELECTRO	
	C673	QETB1AM-476	47MF	10V	ELECTRO	
	C674	QCS21HJ-100	10PF	50V	CERAMIC	
	C675	QCS21HJ-820	82PF	50V	CERAMIC	
	C676	QCS21HJ-101	100PF	50V	CERAMIC	
	C677	QCS21HJ-100	10PF	50V	CERAMIC	
	C678	QCZ0202-155	1.5MF	25V	CERAMIC	
	C679	QCZ0202-155	1.5MF	25V	CERAMIC	
	C680	QCS21HJ-220	22PF	50V	CERAMIC	
	C681	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C682	QFLB1HJ-102	1000PF	50V	MYLAR	
	C701	QFLB1HJ-182	1800PF	50V	MYLAR	
	C703	QFLB1HJ-222	2200PF	50V	MYLAR	
	C704	QFLB1HJ-222	2200PF	50V	MYLAR	
	C705	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C706	QFLB1HJ-333	0.033MF	50V	MYLAR	
	C707	QFLB1HJ-103	0.01MF	50V	MYLAR	
	C708	QCF21HP-223	0.022MF	50V	CERAMIC	
	C709	QFLB1HJ-333	0.033MF	50V	MYLAR	
	C710	QCZ0202-155	1.5MF	25V	CERAMIC	
	C711	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C712	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C713	QCS21HJ-471	470PF	50V	CERAMIC	
	C714	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C715	QFLB1HJ-333	0.033MF	50V	MYLAR	
	C716	QFLB1HJ-473	0.047MF	50V	MYLAR	
	C717	QFLB1HJ-473	0.047MF	50V	MYLAR	
	C718	QFLB1HJ-473	0.047MF	50V	MYLAR	
	C719	QETB1HM-106	10MF	50V	ELECTRO	
	C720	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C722	QCF21HP-223	0.022MF	50V	CERAMIC	
	C723	QFLB1HJ-333	0.033MF	50V	MYLAR	
	C724	QETB1HM-106	10MF	50V	ELECTRO	
	C726	QFLB1HJ-223	0.022MF	50V	MYLAR	
	C727	QFLB1HJ-103	0.01MF	50V	MYLAR	
	C728	QETB1HM-475	4.7MF	50V	ELECTRO	
	C729	QFLB1HJ-393	0.039MF	50V	MYLAR	
	C730	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C731	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C751	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C752	QFLB1HJ-104	0.1MF	50V	MYLAR	
	C753	QETB1AM-107	100MF	10V	ELECTRO	
	C754	QETB1AM-107	100MF	10V	ELECTRO	
	C755	QCZ0202-155	1.5MF	25V	CERAMIC	
	C756	EEZ2505-476	47MF		ELECTRO	
	C757	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C758	QCSB1HJ-560	56PF	50V	CERAMIC	
	C761	QFP81HJ-561	560PF	50V	POLY	
	C762	QFP81HJ-561	560PF	50V	POLY	
	C763	QFLB1HJ-152	1500PF	50V	MYLAR	
	C764	QFLB1HJ-152	1500PF	50V	MYLAR	
	C765	EEZ2505-226	22MF		ELECTRO	
	C766	EEZ2505-226	22MF		ELECTRO	
	C767	QFLB1HJ-122	1200PF	50V	MYLAR	
	C768	QFLB1HJ-122	1200PF	50V	MYLAR	
	C769	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C770	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C771	QFV81HJ-104	0.1MF	50V	T.FILM	
	C772	QFV81HJ-104	0.1MF	50V	T.FILM	
	C784	QCZ0202-155	1.5MF	25V	CERAMIC	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R405	QRD167J-472	4.7K	1/6W	CARBON	
	R406	QRD167J-472	4.7K	1/6W	CARBON	
	R407	QRD167J-104	100K	1/6W	CARBON	
	R408	QRD167J-104	100K	1/6W	CARBON	
	R409	QRD167J-393	39K	1/6W	CARBON	
	R410	QRD167J-393	39K	1/6W	CARBON	
	R411	QRD167J-104	100K	1/6W	CARBON	
	R412	QRD167J-104	100K	1/6W	CARBON	
	R413	QRD167J-104	100K	1/6W	CARBON	
	R414	QRD167J-104	100K	1/6W	CARBON	
	R415	QRD167J-473	47K	1/6W	CARBON	
	R416	QRD167J-473	47K	1/6W	CARBON	
	R417	QRD167J-822	8.2K	1/6W	CARBON	
	R418	QRD167J-822	8.2K	1/6W	CARBON	
	R419	QRD167J-203	20K	1/6W	CARBON	

⚠ SAFETY PARTS

MC-Service

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R420	QRD167J-203	20K	1/6W	CARBON	
	R421	QRD167J-393	39K	1/6W	CARBON	
	R422	QRD167J-393	39K	1/6W	CARBON	
	R423	QRD167J-104	100K	1/6W	CARBON	
	R424	QRD167J-104	100K	1/6W	CARBON	
	R425	QRD167J-393	39K	1/6W	CARBON	
	R426	QRD167J-105	1M	1/6W	CARBON	
	R427	QRD167J-473	47K	1/6W	CARBON	
	R428	QRD167J-473	47K	1/6W	CARBON	
	R429	QRD167J-473	47K	1/6W	CARBON	
	R430	QRD167J-473	47K	1/6W	CARBON	
	R431	QRD167J-473	47K	1/6W	CARBON	
	R432	QRD167J-473	47K	1/6W	CARBON	
	R433	QRD167J-103	10K	1/6W	CARBON	
	R434	QRD167J-103	10K	1/6W	CARBON	
	R435	QRD167J-222	2.2K	1/6W	CARBON	
	R436	QRD167J-222	2.2K	1/6W	CARBON	
	R437	QRD167J-224	220K	1/6W	CARBON	
	R439	QRD167J-224	220K	1/6W	CARBON	
	R440	QRD167J-224	220K	1/6W	CARBON	
	R441	QRD167J-103	10K	1/6W	CARBON	
	R442	QRD167J-103	10K	1/6W	CARBON	
	R451	QRD167J-222	2.2K	1/6W	CARBON	
	R452	QRD167J-222	2.2K	1/6W	CARBON	
	R453	QRD167J-473	47K	1/6W	CARBON	
	R454	QRD167J-473	47K	1/6W	CARBON	
	R455	QRD167J-561	560	1/6W	CARBON	
	R456	QRD167J-561	560	1/6W	CARBON	
	R457	QRD167J-474	470K	1/6W	CARBON	
	R458	QRD167J-474	470K	1/6W	CARBON	
	R459	QRD167J-393	39K	1/6W	CARBON	
	R460	QRD167J-393	39K	1/6W	CARBON	
	R461	QRD167J-302	3K	1/6W	CARBON	
	R462	QRD167J-302	3K	1/6W	CARBON	
	R463	QRD167J-272	2.7K	1/6W	CARBON	
	R464	QRD167J-272	2.7K	1/6W	CARBON	
	R465	QRD167J-105	1M	1/6W	CARBON	
	R466	QRD167J-105	1M	1/6W	CARBON	
	R471	QRD167J-332	3.3K	1/6W	CARBON	
	R472	QRD167J-332	3.3K	1/6W	CARBON	
	R475	QRD161J-221	220	1/6W	CARBON	
	R476	QRD161J-221	220	1/6W	CARBON	
	R477	QRD167J-102	1K	1/6W	CARBON	
	R478	QRD167J-104	100K	1/6W	CARBON	
	R480	QRD167J-222	2.2K	1/6W	CARBON	
	R481	QRD167J-105	1M	1/6W	CARBON	
	R483	QRD167J-222	2.2K	1/6W	CARBON	
⚠	R489	QRD14CJ-220S	22	1/4W	UNF.CARBON	
⚠	R601	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R602	QRZ0077-100	10	1/4W	FUSIBLE	
	R605	QRD167J-472	4.7K	1/6W	CARBON	
	R606	QRD167J-472	4.7K	1/6W	CARBON	
	R607	QRD167J-471	470	1/6W	CARBON	
	R608	QRD167J-182	1.8K	1/6W	CARBON	
	R609	QRD167J-103	10K	1/6W	CARBON	
	R610	QRD167J-472	4.7K	1/6W	CARBON	
⚠	R611	PTH61G25AR4R7M			FUSIBLE	
⚠	R612	PTH61G25AR4R7M			FUSIBLE	
	R614	QRD167J-102	1K	1/6W	CARBON	
	R616	QRD167J-102	1K	1/6W	CARBON	
	R617	QRD167J-391	390	1/6W	CARBON	
	R618	QRD167J-102	1K	1/6W	CARBON	
⚠	R619	QRZ0077-5R6	5.6	1/4W	FUSIBLE	
⚠	R620	QRZ0077-470	47	1/4W	FUSIBLE	
	R651	QRD167J-332	3.3K	1/6W	CARBON	
	R652	QRD167J-682	6.8K	1/6W	CARBON	
	R653	QRD167J-103	10K	1/6W	CARBON	
	R654	QRD167J-103	10K	1/6W	CARBON	
	R655	QRD167J-561	560	1/6W	CARBON	
	R656	QRD167J-561	560	1/6W	CARBON	
	R657	QRD167J-561	560	1/6W	CARBON	
	R658	QRD167J-561	560	1/6W	CARBON	
	R671	QRD167J-100	10	1/6W	CARBON	
	R672	QRD167J-120	12	1/6W	CARBON	
	R673	QRD167J-102	1K	1/6W	CARBON	
	R675	QRD167J-183	18K	1/6W	CARBON	
	R676	QRD167J-183	18K	1/6W	CARBON	
	R677	QRD167J-121	120	1/6W	CARBON	
	R678	QRD167J-103	10K	1/6W	CARBON	
	R679	QRD167J-332	3.3K	1/6W	CARBON	
	R680	QRD167J-822	8.2K	1/6W	CARBON	
	R681	QRD167J-113	11K	1/6W	CARBON	
	R682	QRD167J-104	100K	1/6W	CARBON	
	R683	QVPA601-203A	20K		VARIABLE	
	R684	QVPA601-203A	20K		VARIABLE	
	R685	QRD167J-103	10K	1/6W	CARBON	
	R686	QRD167J-910	91	1/6W	CARBON	
	R701	QRD167J-472	4.7K	1/6W	CARBON	
	R702	QRD167J-472	4.7K	1/6W	CARBON	
	R703	QVPA601-203A	20K		VARIABLE	
	R704	QVPA601-203A	20K		VARIABLE	
	R705	QRD167J-102	1K	1/6W	CARBON	
	R706	QRD167J-104	100K	1/6W	CARBON	
	R707	QRD167J-103	10K	1/6W	CARBON	
	R708	QRD167J-273	27K	1/6W	CARBON	

⚠ SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R709	QRD167J-273	27K	1/6W	CARBON	
	R710	QRD167J-224	220K	1/6W	CARBON	
	R711	QRD167J-2R2	2.2	1/6W	CARBON	
	R712	QRD167J-164	160K	1/6W	CARBON	
	R713	QRD167J-134	130K	1/6W	CARBON	
	R714	QRD167J-2R2	2.2	1/6W	CARBON	
	R715	QRD167J-224	220K	1/6W	CARBON	
	R716	QRD167J-333	33K	1/6W	CARBON	
	R717	QRD167J-103	10K	1/6W	CARBON	
	R718	QRD167J-514	510K	1/6W	CARBON	
	R719	QRD167J-2R2	2.2	1/6W	CARBON	
	R720	QRD167J-123	12K	1/6W	CARBON	
	R721	QRD167J-333	33K	1/6W	CARBON	
	R722	QRD167J-124	120K	1/6W	CARBON	
	R723	QRD167J-472	4.7K	1/6W	CARBON	
	R726	QRD167J-203	20K	1/6W	CARBON	
	R727	QRD167J-273	27K	1/6W	CARBON	
	R728	QRD167J-752	7.5K	1/6W	CARBON	
	R729	QRD167J-752	7.5K	1/6W	CARBON	
	R730	QRD167J-333	33K	1/6W	CARBON	
	R731	QRD167J-2R2	2.2	1/6W	CARBON	
	R732	QRD167J-513	51K	1/6W	CARBON	
	R733	QRD167J-513	51K	1/6W	CARBON	
	R734	QRD167J-683	68K	1/6W	CARBON	
	R735	QRD167J-683	68K	1/6W	CARBON	
	R736	QRD167J-684	680K	1/6W	CARBON	
	R737	QRD161J-221	220	1/6W	CARBON	
	R738	QRD167J-823	82K	1/6W	CARBON	
	R751	QRD167J-103	10K	1/6W	CARBON	
	R752	QRD167J-392	3.9K	1/6W	CARBON	
	R753	QRD167J-182	1.8K	1/6W	CARBON	
	R754	QRD167J-100	10	1/6W	CARBON	
	R755	QRD167J-101	100	1/6W	CARBON	
	R761	QRD167J-362	3.6K	1/6W	CARBON	
	R762	QRD167J-362	3.6K	1/6W	CARBON	
	R763	QRD167J-362	3.6K	1/6W	CARBON	
	R764	QRD167J-362	3.6K	1/6W	CARBON	
	R765	QRD167J-273	27K	1/6W	CARBON	
	R766	QRD167J-273	27K	1/6W	CARBON	
	R767	QRD167J-333	33K	1/6W	CARBON	
	R768	QRD167J-333	33K	1/6W	CARBON	
	R771	QRD167J-273	27K	1/6W	CARBON	
	R772	QRD167J-273	27K	1/6W	CARBON	
	R773	QRD167J-222	2.2K	1/6W	CARBON	
	R774	QRD167J-222	2.2K	1/6W	CARBON	
	R775	QRD167J-332	3.3K	1/6W	CARBON	
	R776	QRD167J-332	3.3K	1/6W	CARBON	

OTHERS

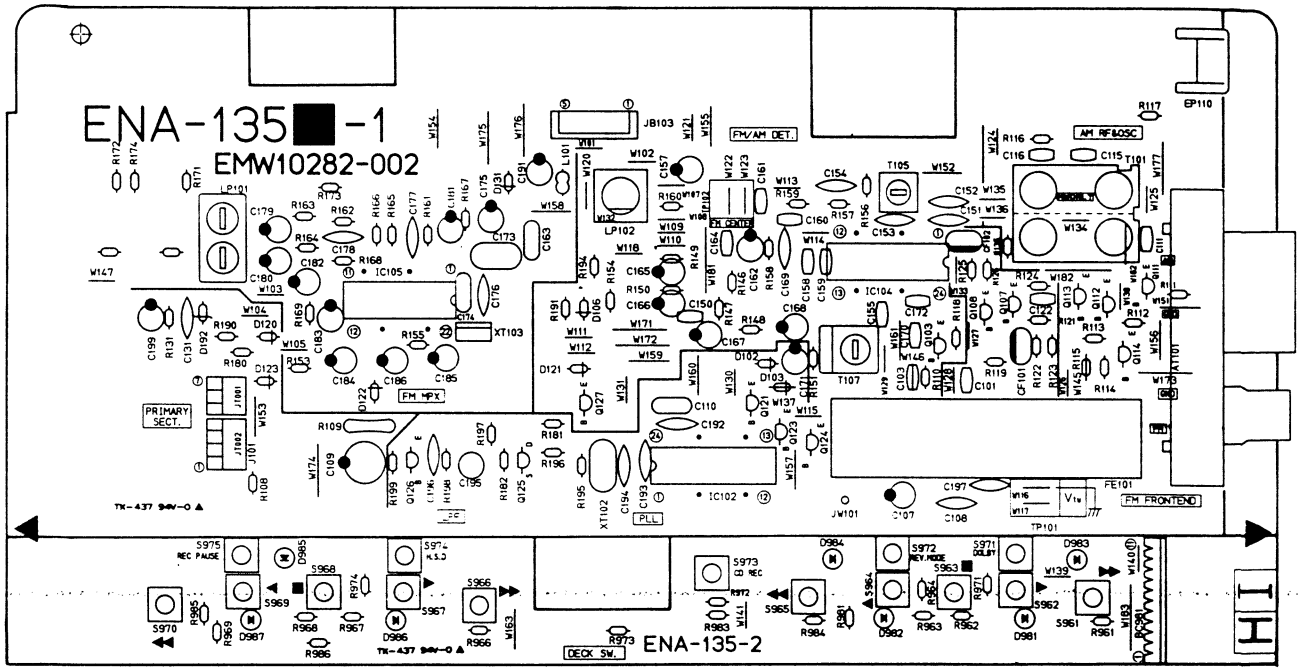
⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	J205	EMV7122-005	CONNECTOR(5PIN) DECK SIGNAL	
	J451	EMN00TV-209A	2P PIN JACK(AUX/PHONO)	
	J452	QSS7A12-E01	SLIDE SWITCH(AUX/PHONO SELECTOR)	
	K444	ENZ8101-008	INDUCTOR	
	K451	ENZ8101-007	INDUCTOR	E
	K454	ENZ8101-008	INDUCTOR	
	P601	EMV7144-015	CONNECTOR(15PIN) TO PICKUP	
	P602	EMV5109-006A	PLUG ASSY(6PIN) TO CD MECHA.	
	P603	EMV5109-005A	PLUG ASSY(5PIN) TO LOADING	
	P701	EMV7123-025	CONNECTOR(25PIN) TO FRONT	
	X601	ECX0169-344EA	RESONATOR	
	FS490	E3400-431	FELT SPACER	E
	JA103	EMV7125-005R	CONNECTOR(5PIN) FROM TUNER	
	JT601	EMV7122-103	CONNECTOR(3PIN) PART OF J601	
	JT602	EMV7122-103	CONNECTOR(3PIN) PART OF J601	
	JT851	EMV7122-004	CONNECTOR(4PIN) PART OF J851	
	JT852	EMV7122-004	CONNECTOR(4PIN) PART OF J851	
	JT911	EMV7122-103	CONNECTOR(3PIN) PART OF J911	
	JT912	EMV7122-004	CONNECTOR(4PIN) PART OF J911	

⚠ SAFETY PARTS

MC-Service

■ENA-135□ Tuner PC Board Ass'y

Note : ENA-135 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENA-135 C	Australia
ENA-135 D	Scandinavia Continental Europe
ENA-135 E	Germany
ENA-135 F	the U.K.
ENA-135 G	Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q103	2SC461(B,C)	SILICON	HITACHI	
	Q107	2SC535(B,C)	SILICON	HITACHI	
	Q108	2SC461(B,C)	SILICON	HITACHI	
	Q111	2SD2144S(VW)	SILICON	ROHM	D
	Q111	2SD2144S(VW)	SILICON	ROHM	E
	Q111	2SD2144S(VW)	SILICON	ROHM	F
	Q111	2SD2144S(VW)	SILICON	ROHM	G
	Q112	2SD2144S(VW)	SILICON	ROHM	D
	Q112	2SD2144S(VW)	SILICON	ROHM	E
	Q112	2SD2144S(VW)	SILICON	ROHM	F
	Q112	2SD2144S(VW)	SILICON	ROHM	G
	Q113	2SD2144S(VW)	SILICON	ROHM	D
	Q113	2SD2144S(VW)	SILICON	ROHM	E
	Q113	2SD2144S(VW)	SILICON	ROHM	F
	Q113	2SD2144S(VW)	SILICON	ROHM	G
	Q114	2SC1740S(R,S)	SILICON	ROHM	D
	Q114	2SC1740S(R,S)	SILICON	ROHM	E
	Q114	2SC1740S(R,S)	SILICON	ROHM	F
	Q114	2SC1740S(R,S)	SILICON	ROHM	G
	Q121	DTA144ES	SILICON	ROHM	D
	Q121	DTA144ES	SILICON	ROHM	E
	Q121	DTA144ES	SILICON	ROHM	F
	Q121	DTA144ES	SILICON	ROHM	G
	Q123	DTA144ES	SILICON	ROHM	
	Q124	DTA144ES	SILICON	ROHM	
	Q125	2SK301(Q2)	F.E.T	MATSUSHITA	
	Q126	2SC458(D)	SILICON	HITACHI	
	Q127	DTC144ES	SILICON	ROHM	

⚠ SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC102	LC7218	I.C.	SANYO	
	IC104	LA1266A	I.C.	SANYO	
	IC105	LA3401	I.C.	SANYO	

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D102	1SS133	SILICON	ROHM	D
	D102	1SS133	SILICON	ROHM	E
	D102	1SS133	SILICON	ROHM	F
	D102	1SS133	SILICON	ROHM	G
	D103	1SS133	SILICON	ROHM	D
	D103	1SS133	SILICON	ROHM	E
	D103	1SS133	SILICON	ROHM	F
	D103	1SS133	SILICON	ROHM	G
	D106	1SS133	SILICON	ROHM	
	D120	1SS133	SILICON	ROHM	
	D121	1SS133	SILICON	ROHM	
	D122	1SS133	SILICON	ROHM	
	D123	1SS133	SILICON	ROHM	
	D192	MTZ5.1JC	ZENER	ROHM	
	D981	SLR-342MCA47	L.E.D.	ROHM	
	D982	SLR-342MCA47	L.E.D.	ROHM	
	D983	SLR-342VC3F	L.E.D.	ROHM	
	D984	SLR-342VC3F	L.E.D.	ROHM	
	D985	SLR-342VC3F	L.E.D.	ROHM	
	D986	SLR-342MCA47	L.E.D.	ROHM	
	D987	SLR-342MCA47	L.E.D.	ROHM	

⚠ SAFETY PARTS

MC-Service

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E3400-431	FELT SPACER	
	L101	EQL4007-1R0T	INDUCTOR	
	S961	ESP0001-023M	TACT SWITCH(A REWIND)	
	S962	ESP0001-023M	TACT SWITCH(A REVERSE)	
	S963	ESP0001-023M	TACT SWITCH(A STOP)	
	S964	ESP0001-023M	TACT SWITCH(A PLAY)	
	S965	ESP0001-023M	TACT SWITCH(A FF)	
	S966	ESP0001-023M	TACT SWITCH(B REWIND)	
	S967	ESP0001-023M	TACT SWITCH(B REVERSE)	
	S968	ESP0001-023M	TACT SWITCH(B STOP)	
	S969	ESP0001-023M	TACT SWITCH(B PLAY)	
	S970	ESP0001-023M	TACT SWITCH(B FF)	
	S971	ESP0001-023M	TACT SWITCH(DOLBY)	
	S972	ESP0001-023M	TACT SWITCH(REV. MODE)	
	S973	ESP0001-023M	TACT SWITCH(CD DIRECT)	
	S974	ESP0001-023M	TACT SWITCH(HIGH SPEED DUBBING)	
	S975	ESP0001-023M	TACT SWITCH(REC.P)	
	T101	EQR7121-004	RF COIL	C
	T101	EQR7121-002	RF COIL	D
	T101	EQR7121-002	RF COIL	E
	T101	EQR7121-002	RF COIL	F
	T101	EQR7121-002	RF COIL	G
	T105	EQT2140-017	I.F. TRANSFORMER	
	T107	ECB1560-010	CERAMIC FILTER	
	AT101	EMB41YV-301K	ANTENNA TERMINAL	
	BC981	EWS32B-A920	SOCKET WIRE(11PIN) DECK BUTTON	
	CF101	ECB2123-006R	CERAMIC FILTER	C
	CF101	ECB2118-007R	CERAMIC FILTER	D
	CF101	ECB2118-007R	CERAMIC FILTER	E
	CF101	ECB2118-007R	CERAMIC FILTER	F

⚠ SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	CF101	ECB2118-007R	CERAMIC FILTER	G
	CF102	ECB2123-006R	CERAMIC FILTER	C
	CF102	ECB2118-007R	CERAMIC FILTER	D
	CF102	ECB2118-007R	CERAMIC FILTER	E
	CF102	ECB2118-007R	CERAMIC FILTER	F
	CF102	ECB2118-007R	CERAMIC FILTER	G
	EP110	E70225-001	EARTH PLATE	
	EP111	E308500-002	SHIELD PLATE	
	FE101	EAF2203-001	FRONT END	C
	FE101	EAF2203-001	FRONT END	D
	FE101	EAF2203-003	FRONT END	E
	FE101	EAF2203-001	FRONT END	F
	FE101	EAF2203-003	FRONT END	G
	JB103	EMV5125-005	PLUG ASSY	
	JT001	EMV7122-103	CONNECTOR(3PIN) PART OF P101	
	JT002	EMV7122-004	CONNECTOR(4PIN) PART OF P101	
	LP101	EQF0101-002	LOW PASS FILTER	
	LP102	EQF0102-001	LOW PASS FILTER	E
	LP102	EQF0102-001	LOW PASS FILTER	G
	XT102	ECX0007-200KC	RESONATOR	
	XT103	ECX0000-456KR	RESONATOR	

⚠ SAFETY PARTS

Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1954A	INSTRUCTION BOOK	1		A
	E30580-1954ABS	INSTRUCTION BOOK	1		BS
	E30580-1956A	INSTRUCTION BOOK	1		EF
	E30580-1955A	INSTRUCTION BOOK	1		EN
	E30580-1956A	INSTRUCTION BOOK	1		G
	E30580-1956A	INSTRUCTION BOOK	1		GI
	BT20060	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
	BT-20122-1	STICKER	1		A
	BT-20122	WARRANTY CARD	1		A
	BT-20066A	WARRANTY CARD	1		BS
	QZL1008-001	FTZ INFORMATION SHEET	1		G
	EWP502-005K	BILT-IN ANTENNA	1		A
	EWP502-005K	BILT-IN ANTENNA	1		BS
	EWP502-005K	BILT-IN ANTENNA	1		EF
	EWP502-005K	BILT-IN ANTENNA	1		EN
	EWP502-005K	BILT-IN ANTENNA	1		GI
	E67007-001	ANTENNA WIRE	1		G
	EQB4001-015	LOOP ANTENNA	1		
	E43486-340A	SAFETY SHEET	1		BS
	EMZ2001-014	ANT. ADAPTOR	1		A
	EMZ2001-014	ANT. ADAPTOR	1		BS
	EMZ2001-014	ANT. ADAPTOR	1		EF
	EMZ2001-014	ANT. ADAPTOR	1		EN
	EMZ2001-014	ANT. ADAPTOR	1		GI
	RM-SEMXS3U	REMOTE CONTROLLER	1		
	UM-4NJ-2PSA	BATTERY	1		
	QPGA025-03505B	ENVELOPE	1		

The Marks for Designated Areas

A ..... Australia
BS .... the U.K.
U ..... Universal
EN .... Scandinavia
G ..... Germany
EF ..... Continental Europe
GI ..... Itary

No mark indicates all areas.

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C101	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C107	QETB1CM-226	22MF	16V	ELECTRO	E
	C107	QETB1CM-226	22MF	16V	ELECTRO	G
	C109	QETB1CM-227	220MF	16V	ELECTRO	
	C110	QCZ0202-155	1.5MF	25V	CERAMIC	
	C111	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C112	QCS21HJ-101	100PF	50V	CERAMIC	
	C115	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C116	QCT30CH-120	12PF	50V	CERAMIC	
	C122	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C131	QCF21HP-223	0.022MF	50V	CERAMIC	
	C150	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C151	QCF21HP-223	0.022MF	50V	CERAMIC	
	C152	QCF21HP-223	0.022MF	50V	CERAMIC	
	C153	QCC21EM-223	0.022MF	25V	CERAMIC	
	C154	QCF21HP-223	0.022MF	50V	CERAMIC	
	C155	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C157	QETB1HM-474	0.47MF	50V	ELECTRO	
	C158	QCBB1HK-101	100PF	50V	CERAMIC	
	C159	QCBB1HK-101	100PF	50V	CERAMIC	
	C160	QCBB1HK-221	220PF	50V	CERAMIC	
	C161	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C162	QETB1EM-106	10MF	25V	ELECTRO	
	C163	QFN81HJ-102	1000PF	50V	MYLAR	
	C164	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C165	QETB1HM-474	0.47MF	50V	ELECTRO	
	C166	QETB1HM-225	2.2MF	50V	ELECTRO	
	C167	QETB1HM-225	2.2MF	50V	ELECTRO	
	C168	QETB1HM-475	4.7MF	50V	ELECTRO	
	C169	QCF21HP-223	0.022MF	50V	CERAMIC	
	C170	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C171	QETB1EM-106	10MF	25V	ELECTRO	
	C172	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C173	QFN81HJ-223	0.022MF	50V	MYLAR	
	C174	QFLB1HK-473	0.047MF	50V	MYLAR	
	C175	QETB1EM-106	10MF	25V	ELECTRO	
	C176	QCY21HK-102	1000PF	50V	CERAMIC	
	C177	QCS21HJ-391	390PF	50V	CERAMIC	C
	C177	QCS21HJ-471	470PF	50V	CERAMIC	D
	C177	QCS21HJ-471	470PF	50V	CERAMIC	E
	C177	QCS21HJ-561	560PF	50V	CERAMIC	F
	C177	QCS21HJ-471	470PF	50V	CERAMIC	G
	C178	QCS21HJ-391	390PF	50V	CERAMIC	C
	C178	QCS21HJ-471	470PF	50V	CERAMIC	D
	C178	QCS21HJ-471	470PF	50V	CERAMIC	E
	C178	QCS21HJ-561	560PF	50V	CERAMIC	F
	C178	QCS21HJ-471	470PF	50V	CERAMIC	G
	C179	QETB1HM-225	2.2MF	50V	ELECTRO	
	C180	QETB1HM-225	2.2MF	50V	ELECTRO	
	C181	QETB1EM-106	10MF	25V	ELECTRO	
	C182	QETB1HM-225	2.2MF	50V	ELECTRO	
	C183	QETB1HM-105	1MF	50V	ELECTRO	
	C184	QETB1HM-105	1MF	50V	ELECTRO	
	C185	QETB1HM-225	2.2MF	50V	ELECTRO	
	C186	QETB1HM-474	0.47MF	50V	ELECTRO	
	C191	QETB1HM-475	4.7MF	50V	ELECTRO	
	C192	QCC21EM-473	0.047MF	25V	CERAMIC	
	C193	QCS21HJ-180	18PF	50V	CERAMIC	
	C194	QCS21HJ-180	18PF	50V	CERAMIC	
	C195	QEN51HM-474	0.47MF	50V	NON POLE	
	C196	QCY21HK-102	1000PF	50V	CERAMIC	
	C197	QCF21HP-223	0.022MF	50V	CERAMIC	
	C199	QETB1HM-475	4.7MF	50V	ELECTRO	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R108	QRD167J-103	10K	1/6W	CARBON	
⚠	R109	QRZ0077-680	68	1/4W	FUSIBLE	
	R111	QRD167J-472	4.7K	1/6W	CARBON	D
	R111	QRD167J-472	4.7K	1/6W	CARBON	E
	R111	QRD167J-472	4.7K	1/6W	CARBON	F
	R111	QRD167J-472	4.7K	1/6W	CARBON	G
	R112	QRD167J-472	4.7K	1/6W	CARBON	D
	R112	QRD167J-472	4.7K	1/6W	CARBON	E
	R112	QRD167J-472	4.7K	1/6W	CARBON	F
	R112	QRD167J-472	4.7K	1/6W	CARBON	G
	R113	QRD167J-472	4.7K	1/6W	CARBON	D
	R113	QRD167J-472	4.7K	1/6W	CARBON	E
	R113	QRD167J-472	4.7K	1/6W	CARBON	F
	R113	QRD167J-472	4.7K	1/6W	CARBON	G
	R114	QRD167J-103	10K	1/6W	CARBON	D
	R114	QRD167J-103	10K	1/6W	CARBON	E
	R114	QRD167J-103	10K	1/6W	CARBON	F
	R114	QRD167J-103	10K	1/6W	CARBON	G
	R115	QRD167J-101	100	1/6W	CARBON	E
	R115	QRD167J-101	100	1/6W	CARBON	G
	R116	QRD167J-104	100K	1/6W	CARBON	
	R117	QRD167J-103	10K	1/6W	CARBON	D
	R117	QRD167J-103	10K	1/6W	CARBON	E
	R117	QRD167J-103	10K	1/6W	CARBON	F
	R117	QRD167J-103	10K	1/6W	CARBON	G

⚠ SAFETY PARTS

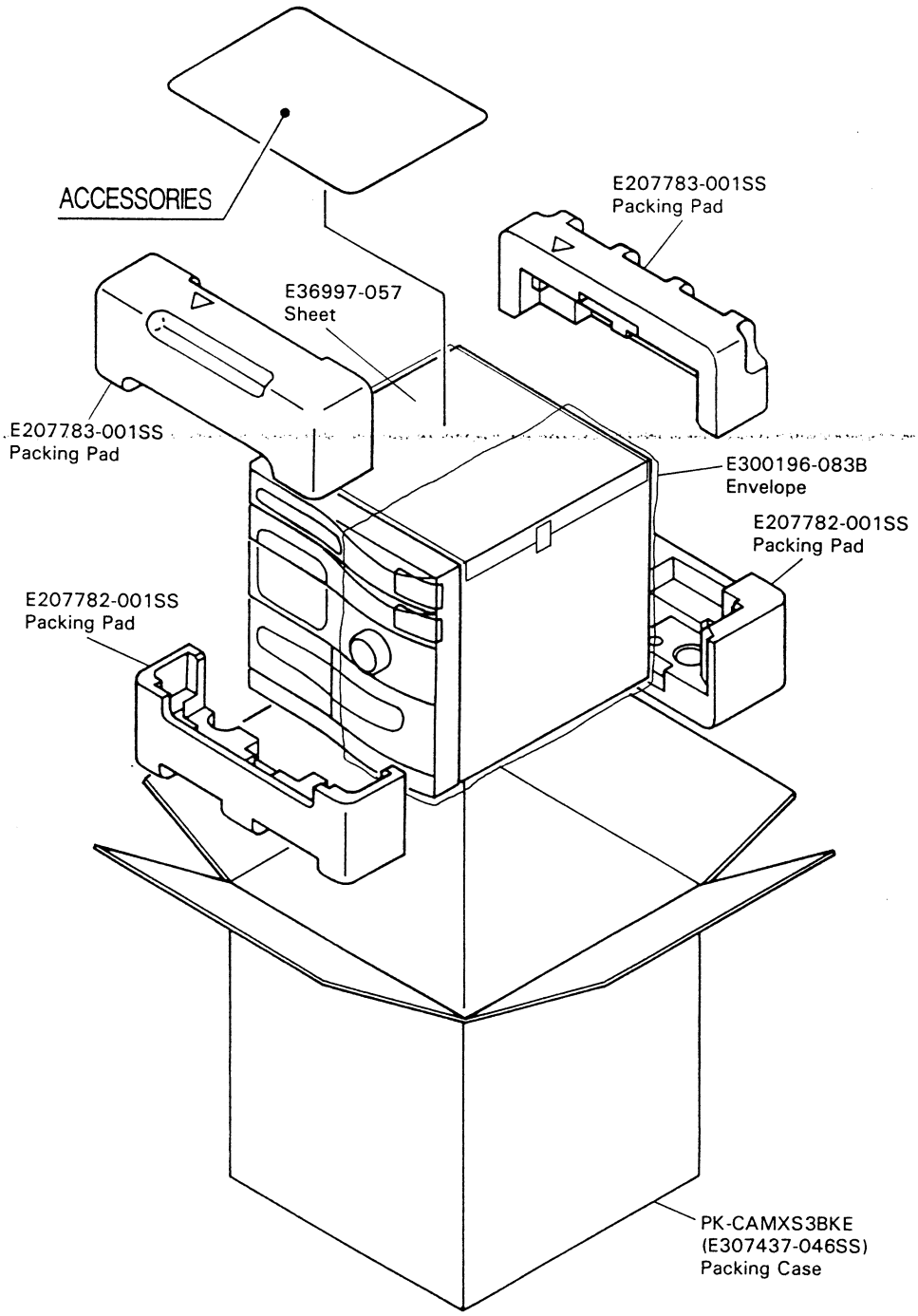
RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R118	QRD167J-332	3.3K	1/6W	CARBON	
	R119	QRD161J-221	220	1/6W	CARBON	
	R121	QRD167J-391	390	1/6W	CARBON	
	R122	QRD167J-272	2.7K	1/6W	CARBON	
	R123	QRD167J-102	1K	1/6W	CARBON	
	R124	QRD167J-681	680	1/6W	CARBON	
	R125	QRD167J-332	3.3K	1/6W	CARBON	
	R126	QRD161J-221	220	1/6W	CARBON	
	R131	QRD167J-222	2.2K	1/6W	CARBON	
	R135	QRD167J-470	47	1/6W	CARBON	
	R146	QRD167J-560	56	1/6W	CARBON	
	R147	QRD167J-103	10K	1/6W	CARBON	
	R148	QRD167J-103	10K	1/6W	CARBON	
	R149	QRD167J-223	22K	1/6W	CARBON	
	R150	QRD167J-103	10K	1/6W	CARBON	
	R151	QRD167J-222	2.2K	1/6W	CARBON	
	R153	QRD167J-103	10K	1/6W	CARBON	
	R154	QRD167J-103	10K	1/6W	CARBON	
	R155	QRD167J-562	5.6K	1/6W	CARBON	
	R156	QRD167J-822	8.2K	1/6W	CARBON	
	R157	QRD167J-103	10K	1/6W	CARBON	
	R158	QRD167J-273	27K	1/6W	CARBON	
	R159	QRD167J-561	560	1/6W	CARBON	
	R160	QRD167J-183	18K	1/6W	CARBON	C
	R160	QRD167J-183	18K	1/6W	CARBON	D
	R160	QRD167J-183	18K	1/6W	CARBON	E
	R160	QRD167J-822	8.2K	1/6W	CARBON	F
	R160	QRD167J-183	18K	1/6W	CARBON	G
	R161	QRD167J-124	120K	1/6W	CARBON	C
	R161	QRD167J-124	120K	1/6W	CARBON	D
	R161	QRD167J-124	120K	1/6W	CARBON	E
	R161	QRD167J-823	82K	1/6W	CARBON	F
	R161	QRD167J-124	120K	1/6W	CARBON	G
	R162	QRD167J-124	120K	1/6W	CARBON	C
	R162	QRD167J-124	120K	1/6W	CARBON	D
	R162	QRD167J-124	120K	1/6W	CARBON	E
	R162	QRD167J-823	82K	1/6W	CARBON	F
	R162	QRD167J-124	120K	1/6W	CARBON	G
	R163	QRD167J-332	3.3K	1/6W	CARBON	
	R164	QRD167J-332	3.3K	1/6W	CARBON	
	R165	QRD167J-274	270K	1/6W	CARBON	
	R166	QRD167J-274	270K	1/6W	CARBON	
	R167	QRD167J-393	39K	1/6W	CARBON	C
	R167	QRD167J-473	47K	1/6W	CARBON	D
	R167	QRD167J-473	47K	1/6W	CARBON	E
	R167	QRD167J-473	47K	1/6W	CARBON	F
	R167	QRD167J-473	47K	1/6W	CARBON	G
	R168	QRD167J-103	10K	1/6W	CARBON	
	R169	QRD167J-103	10K	1/6W	CARBON	
	R171	QRD167J-103	10K	1/6W	CARBON	
	R172	QRD167J-103	10K	1/6W	CARBON	
	R173	QRD167J-123	12K	1/6W	CARBON	
	R174	QRD167J-123	12K	1/6W	CARBON	
	R180	QRD167J-103	10K	1/6W	CARBON	
	R181	QRD167J-222	2.2K	1/6W	CARBON	
	R182	QRD167J-181	180	1/6W	CARBON	
	R190	QRD167J-103	10K	1/6W	CARBON	
	R191	QRD167J-562	5.6K	1/6W	CARBON	
	R194	QRD167J-103	10K	1/6W	CARBON	
	R195	QRD167J-473	47K	1/6W	CARBON	
	R196	QRD167J-103	10K	1/6W	CARBON	C
	R196	QRD167J-222	2.2K	1/6W	CARBON	D
	R196	QRD167J-222	2.2K	1/6W	CARBON	E
	R196	QRD167J-222	2.2K	1/6W	CARBON	F
	R196	QRD167J-222	2.2K	1/6W	CARBON	G
	R197	QRD167J-222	2.2K	1/6W	CARBON	
	R198	QRD167J-332	3.3K	1/6W	CARBON	C
	R198	QRD167J-822	8.2K	1/6W	CARBON	D
	R198	QRD167J-822	8.2K	1/6W	CARBON	E
	R198	QRD167J-822	8.2K	1/6W	CARBON	F
	R198	QRD167J-822	8.2K	1/6W	CARBON	G
	R199	QRD167J-472	4.7K	1/6W	CARBON	
	R961	QRD167J-431	430	1/6W	CARBON	
	R962	QRD167J-681	680	1/6W	CARBON	
	R963	QRD167J-112	1.1K	1/6W	CARBON	
	R964	QRD167J-222	2.2K	1/6W	CARBON	
	R966	QRD167J-431	430	1/6W	CARBON	
	R967	QRD167J-681	680	1/6W	CARBON	
	R968	QRD167J-112	1.1K	1/6W	CARBON	
	R969	QRD167J-222	2.2K	1/6W	CARBON	
	R971	QRD167J-431	430	1/6W	CARBON	
	R972	QRD167J-681	680	1/6W	CARBON	
	R973	QRD167J-112	1.1K	1/6W	CARBON	
	R974	QRD167J-222	2.2K	1/6W	CARBON	
	R981	QRD167J-181	180	1/6W	CARBON	
	R983	QRD167J-331	330	1/6W	CARBON	
	R984	QRD167J-331	330	1/6W	CARBON	
	R985	QRD167J-331	330	1/6W	CARBON	
	R986	QRD167J-181	180	1/6W	CARBON	

⚠ SAFETY PARTS

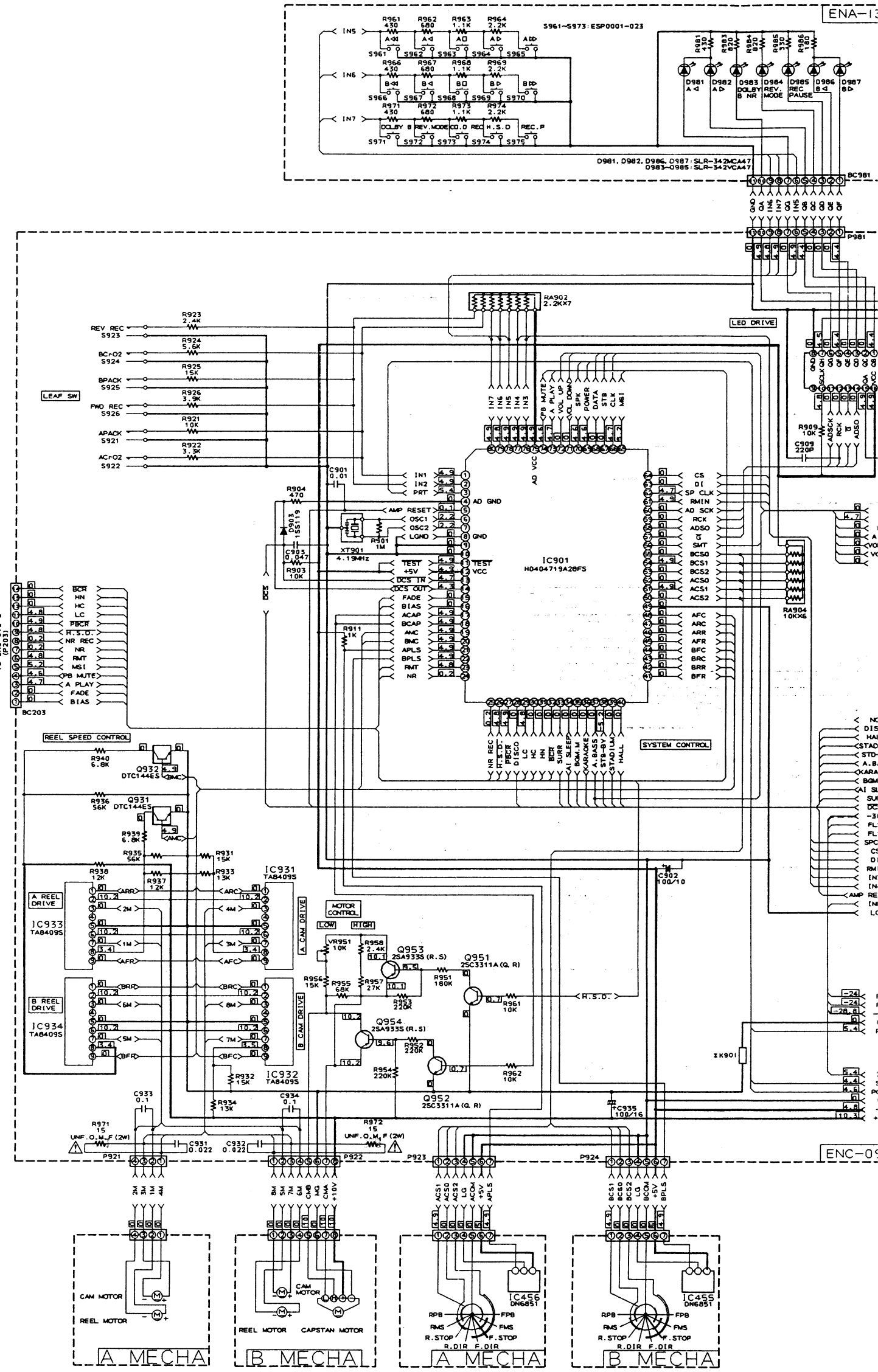
— MEMO —

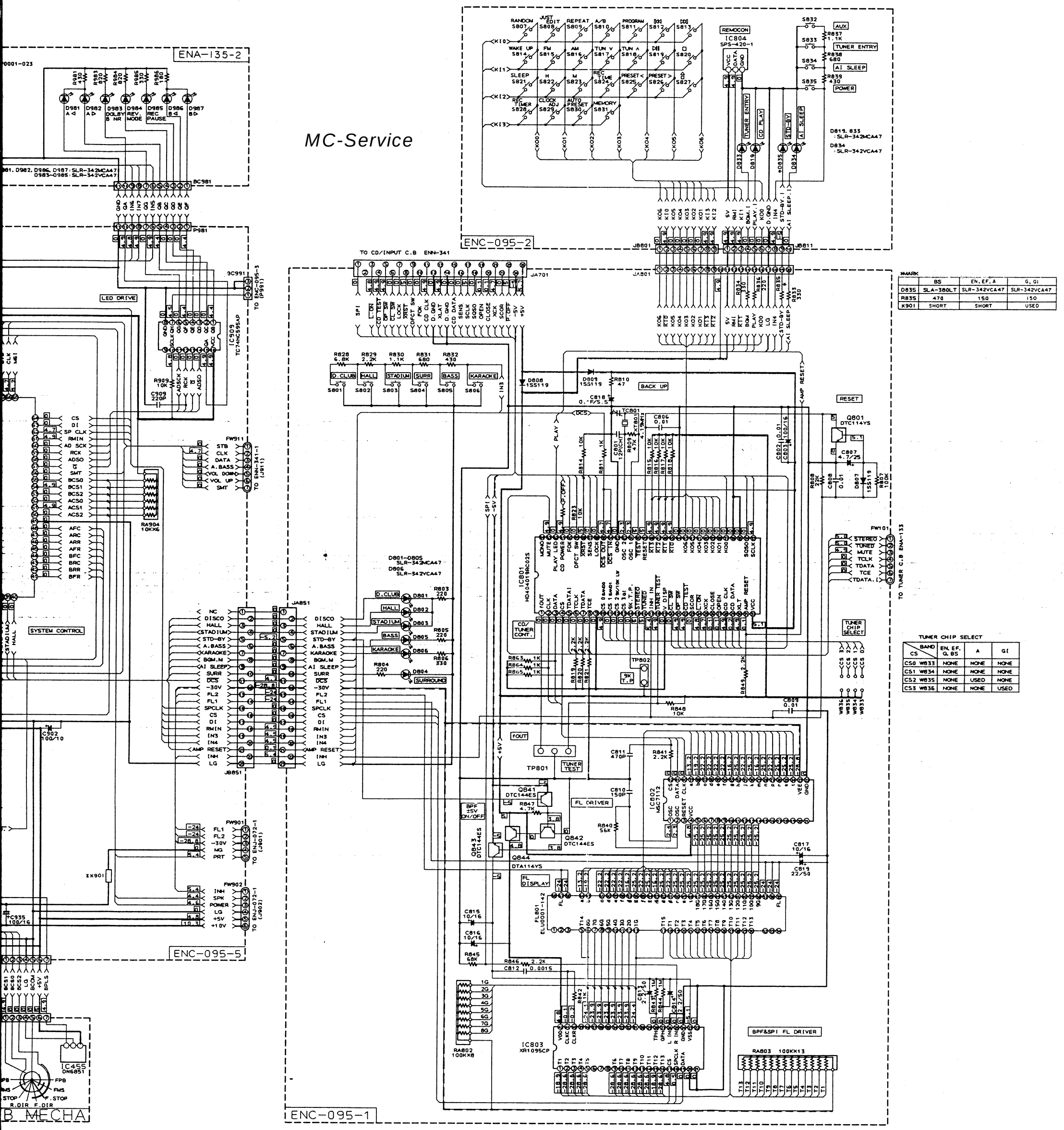
Packing Materials and Part Numbers



Schematic Diagrams

(1) System Control Section





***MARK**

	BS	EN, EF, A	G, GI
D835	SLA-380LT	SLR-342VCA47	SLR-342VCA47
R835	470	150	150
K901	SHORT	SHORT	USED

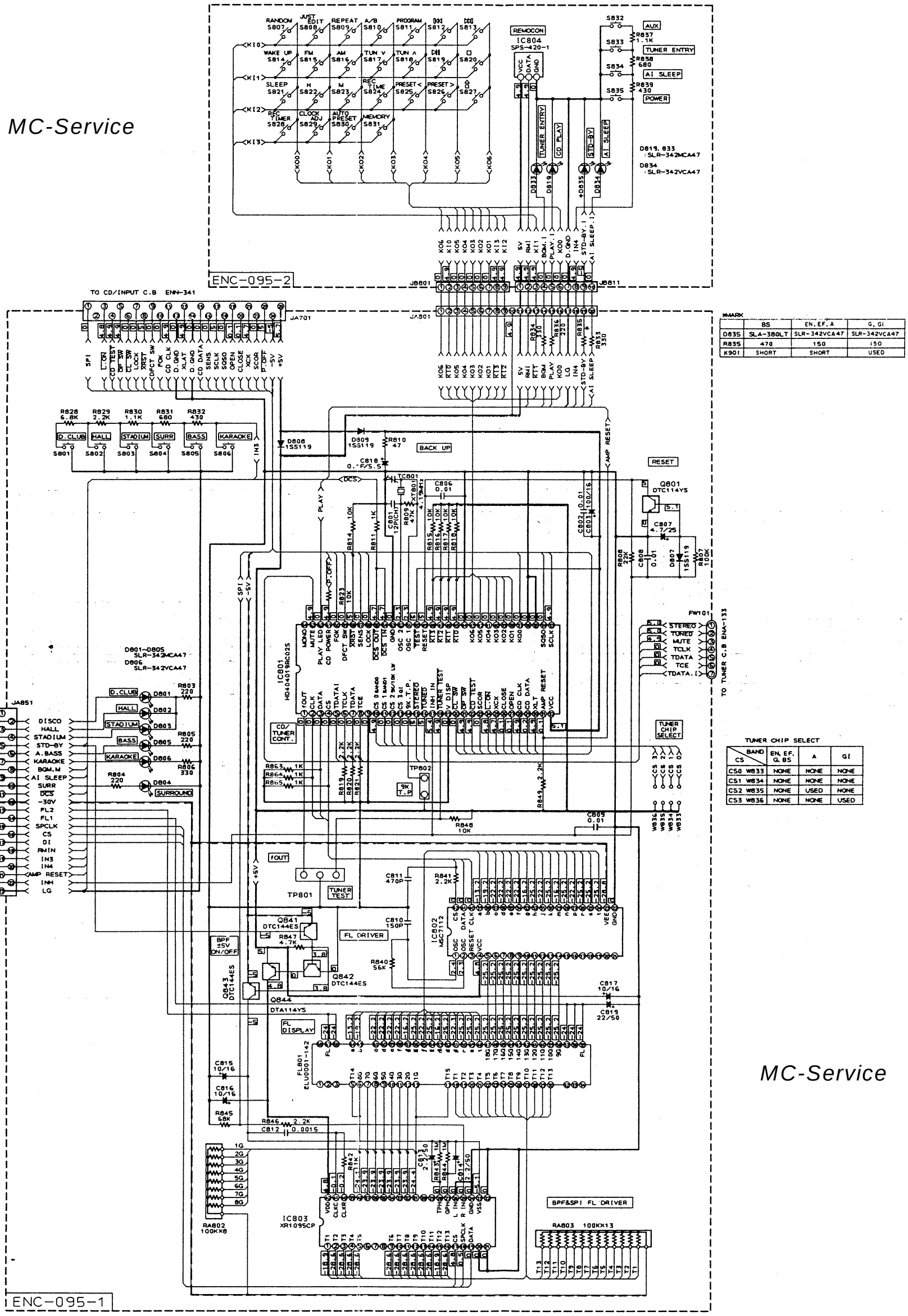
TUNER CHIP SELECT

CS / BAND	EN, EF, G, BS	A	GI
CS0 W833	NONE	NONE	NONE
CS1 W834	NONE	NONE	NONE
CS2 W835	NONE	USED	NONE
CS3 W836	NONE	NONE	USED

MC-Service

Notes:

1. —— indicates +B power supply.
2. ----- indicates −B power supply.
3. indicates signal path.
4. When replacing the parts in the shaded are (▬) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notice.



Notes:

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4. When replacing the parts in the shaded are (▬) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
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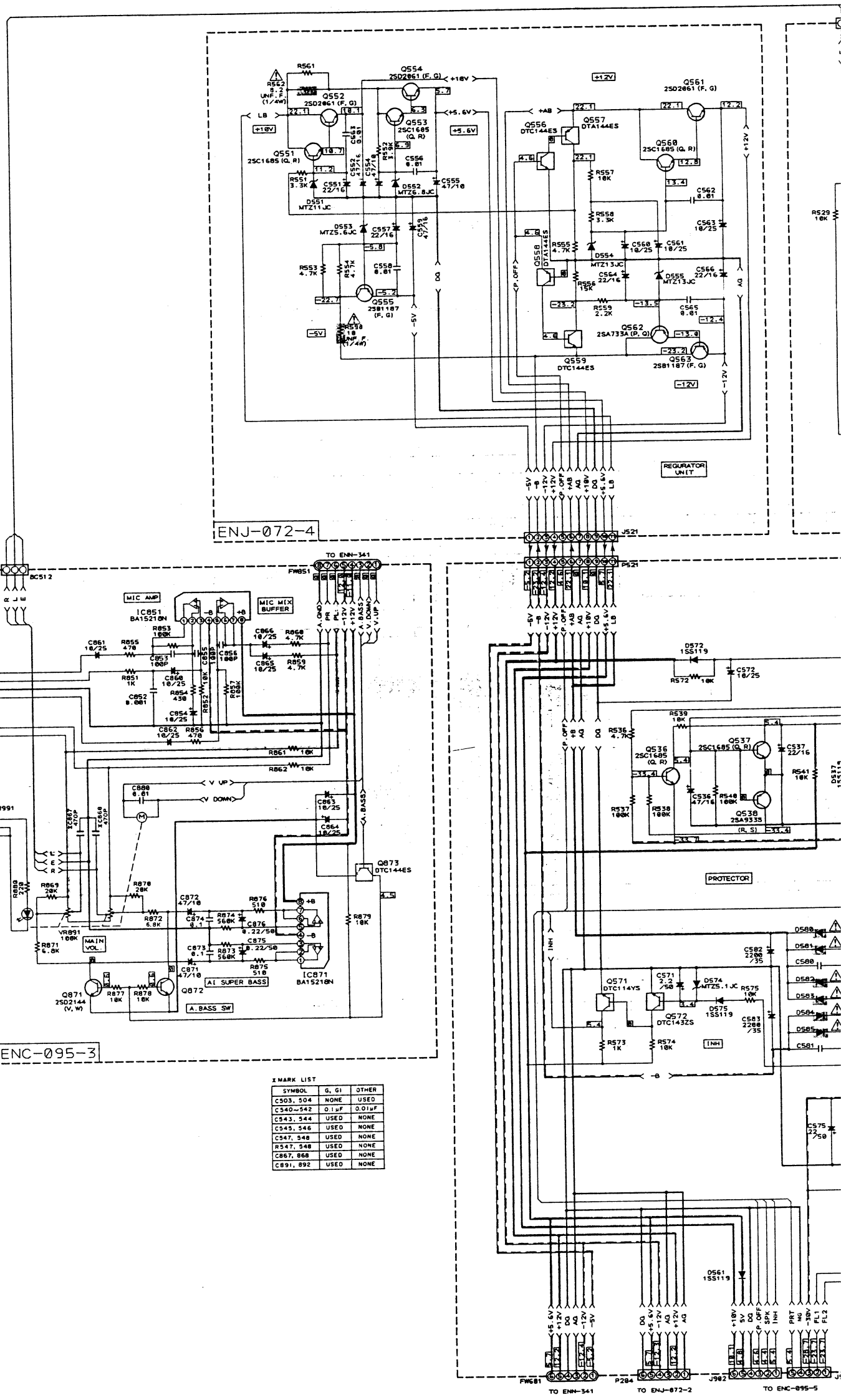
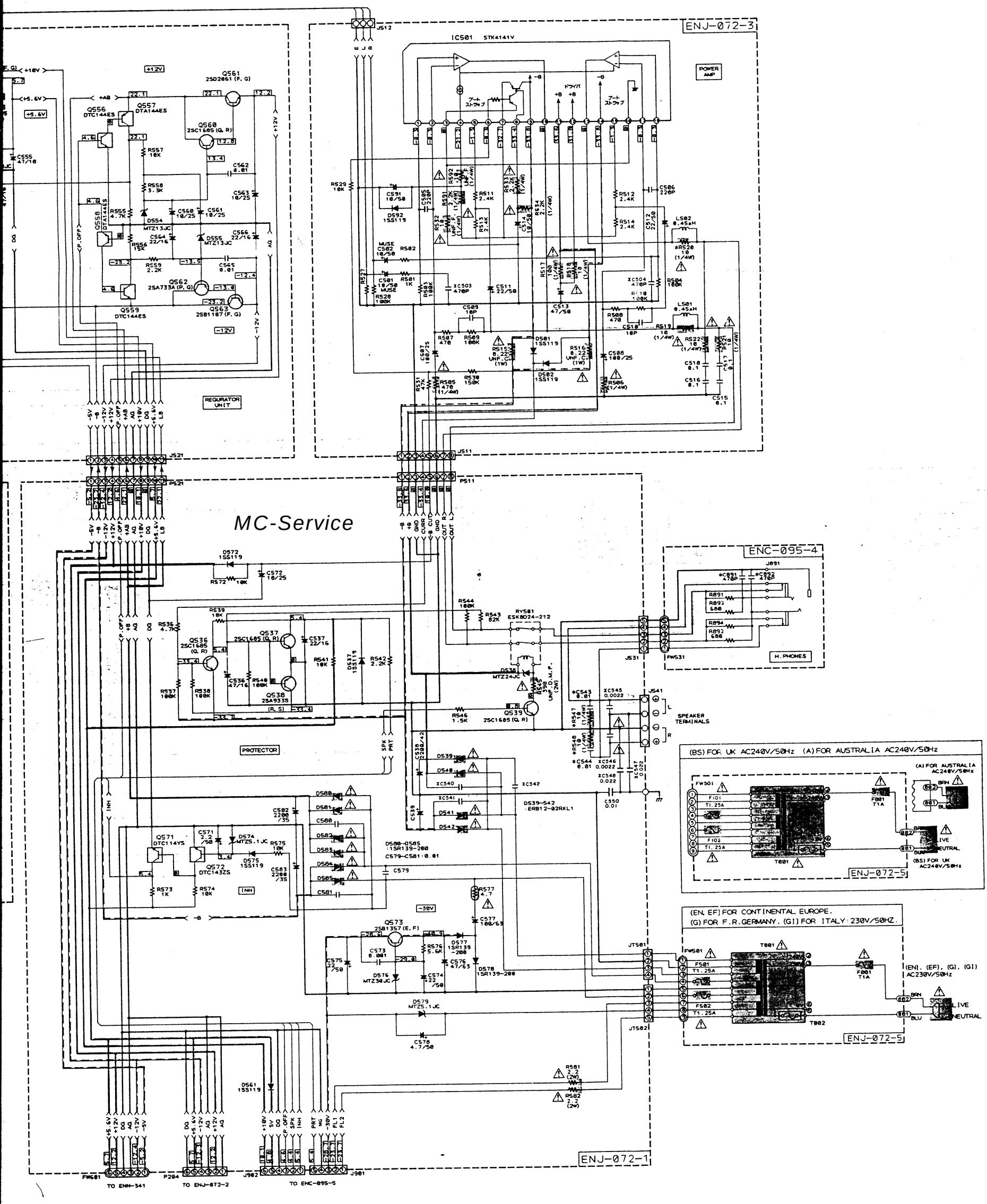
(2) Power Supply & Audio Section



X MARK LIST

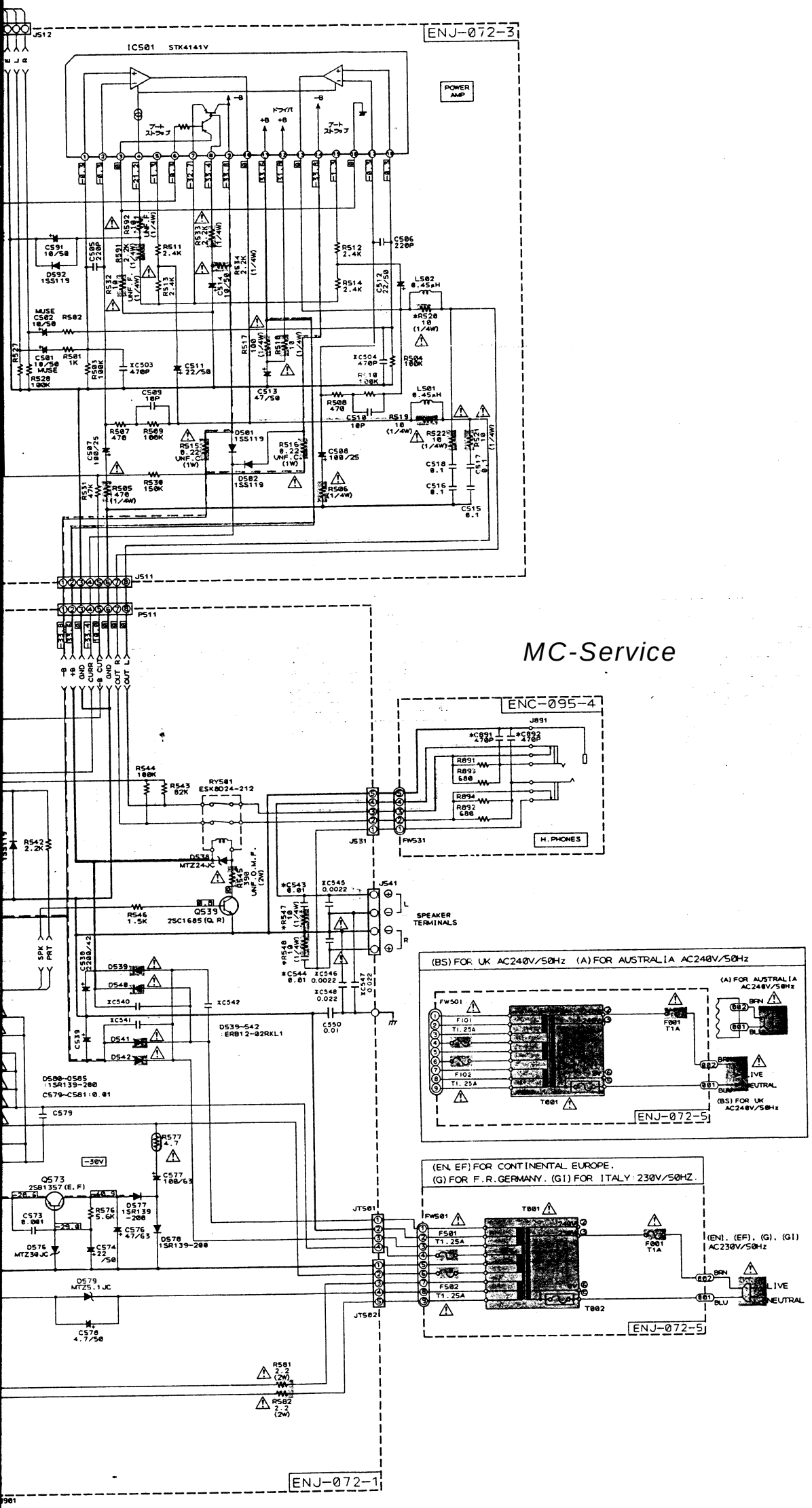
SYMBOL	G, GI	OTHER
C503, 504	NONE	USED
C540~542	0.1μF	0.01μF
C543, 544	USED	NONE
C545, 546	USED	NONE
C547, 548	USED	NONE
R547, 548	USED	NONE
C867, 868	USED	NONE
C891, 892	USED	NONE



MC-Service

Notes:

1. ——— indicates +B power supply.
2. ----- indicates --B power supply.
3. indicates signal path.
4. When replacing the parts in the shad with ⚠ , be sure to use the designat
5. This is the standard circuit diagram. The design and contents are subject



MC-Service

Notes:

1. ——— indicates +B power supply.
2. ----- indicates -B power supply.
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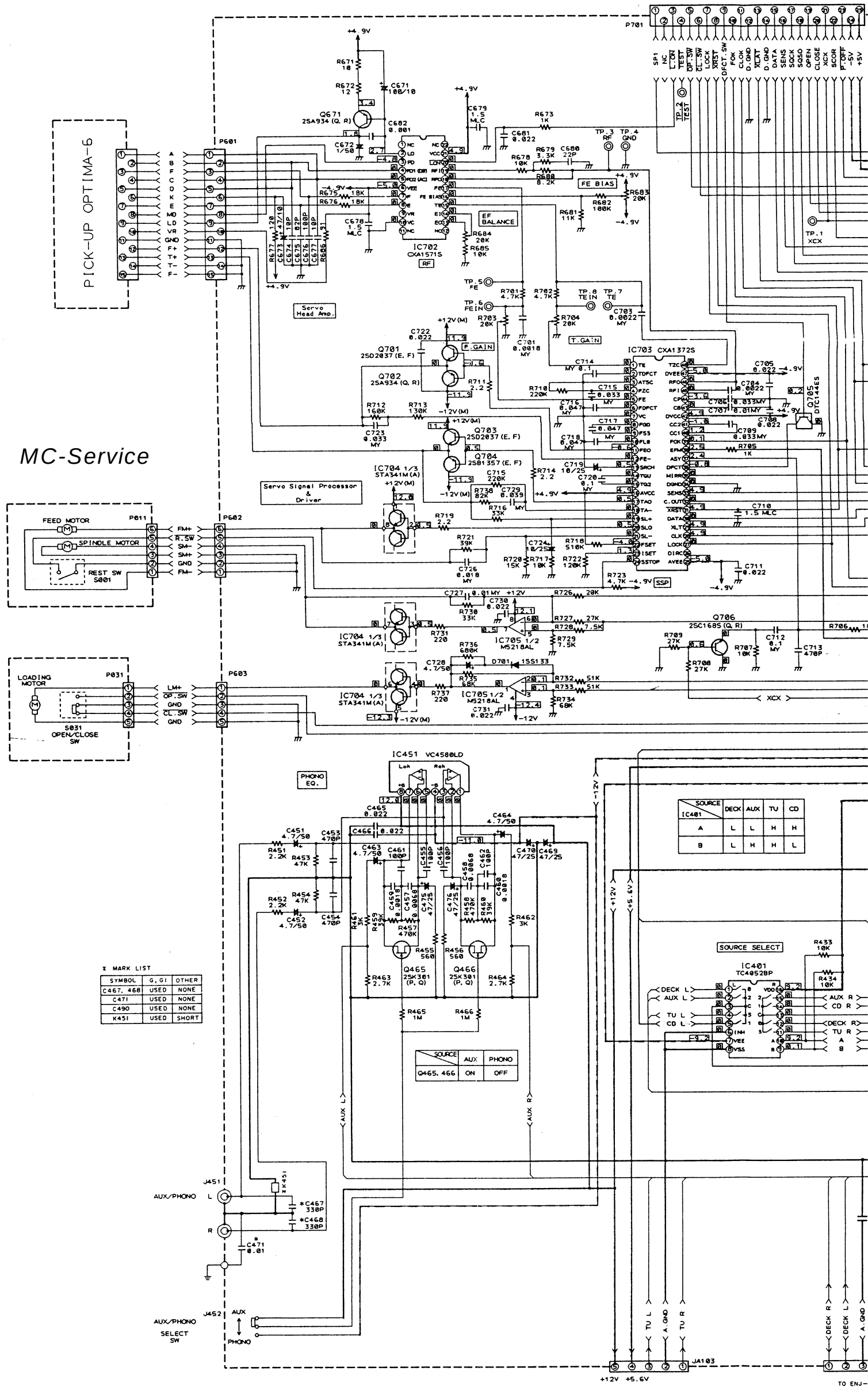
4. When replacing the parts in the shaded are (▬) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

(3) CD & Source Selector Section

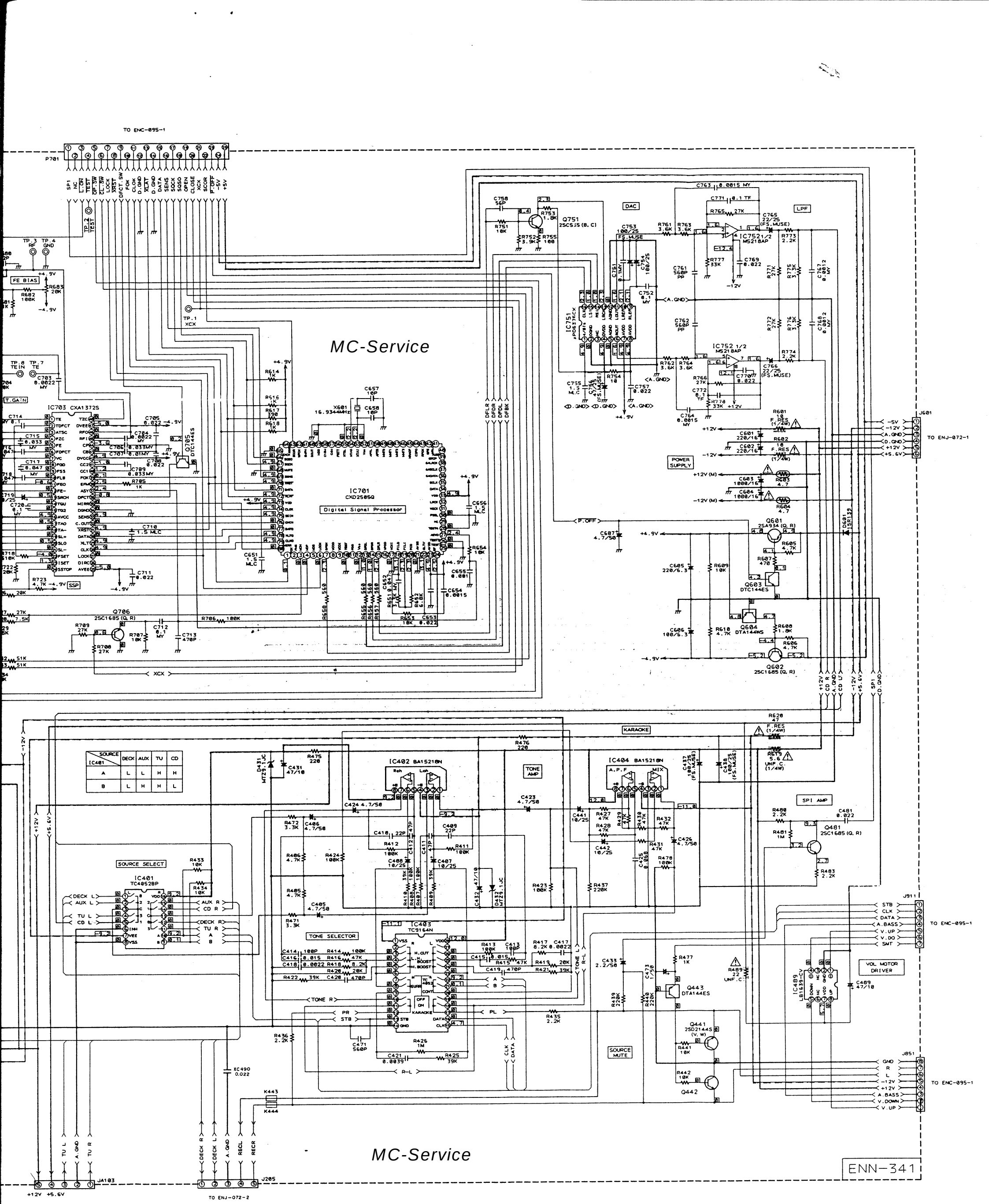


SOURCE / IC401	DECK	AUX	TU	CD
A	L	L	H	H
B	L	H	H	L

SOURCE	AUX	PHONO
Q465, 466	ON	OFF

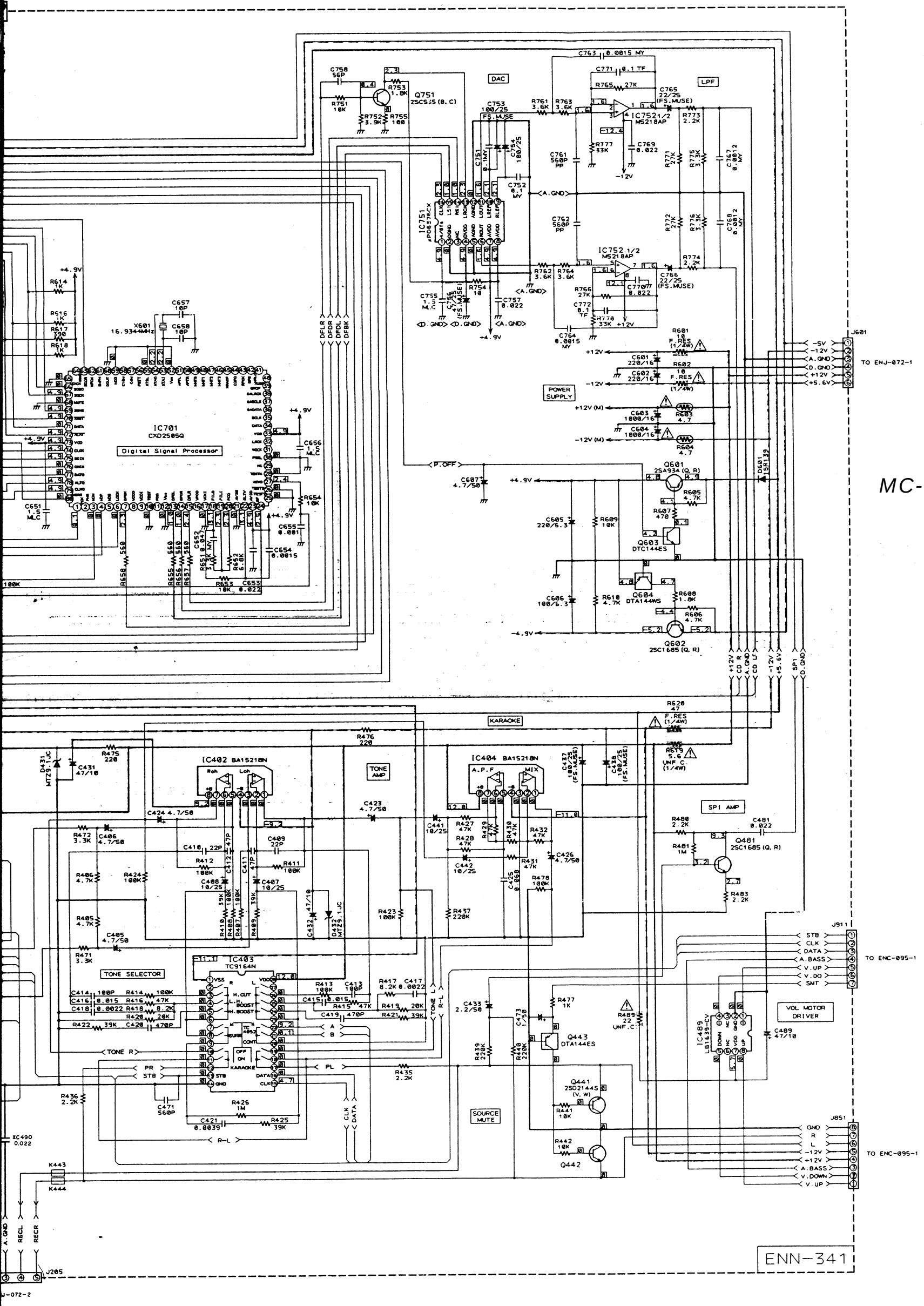
x MARK LIST

SYMBOL	G, GI	OTHER
C467, 468	USED	NONE
C471	USED	NONE
C490	USED	NONE
K451	USED	SHORT



Notes:

1. ——— indicates +B power supply.
2. ----- indicates −B power supply.
3. indicates signal path.
4. When replacing the parts in the shaded are (▒▒▒) and tho
   with ⚠ , be sure to use the designated parts to ensure safet
5. This is the standard circuit diagram.
   The design and contents are subject to change without notic



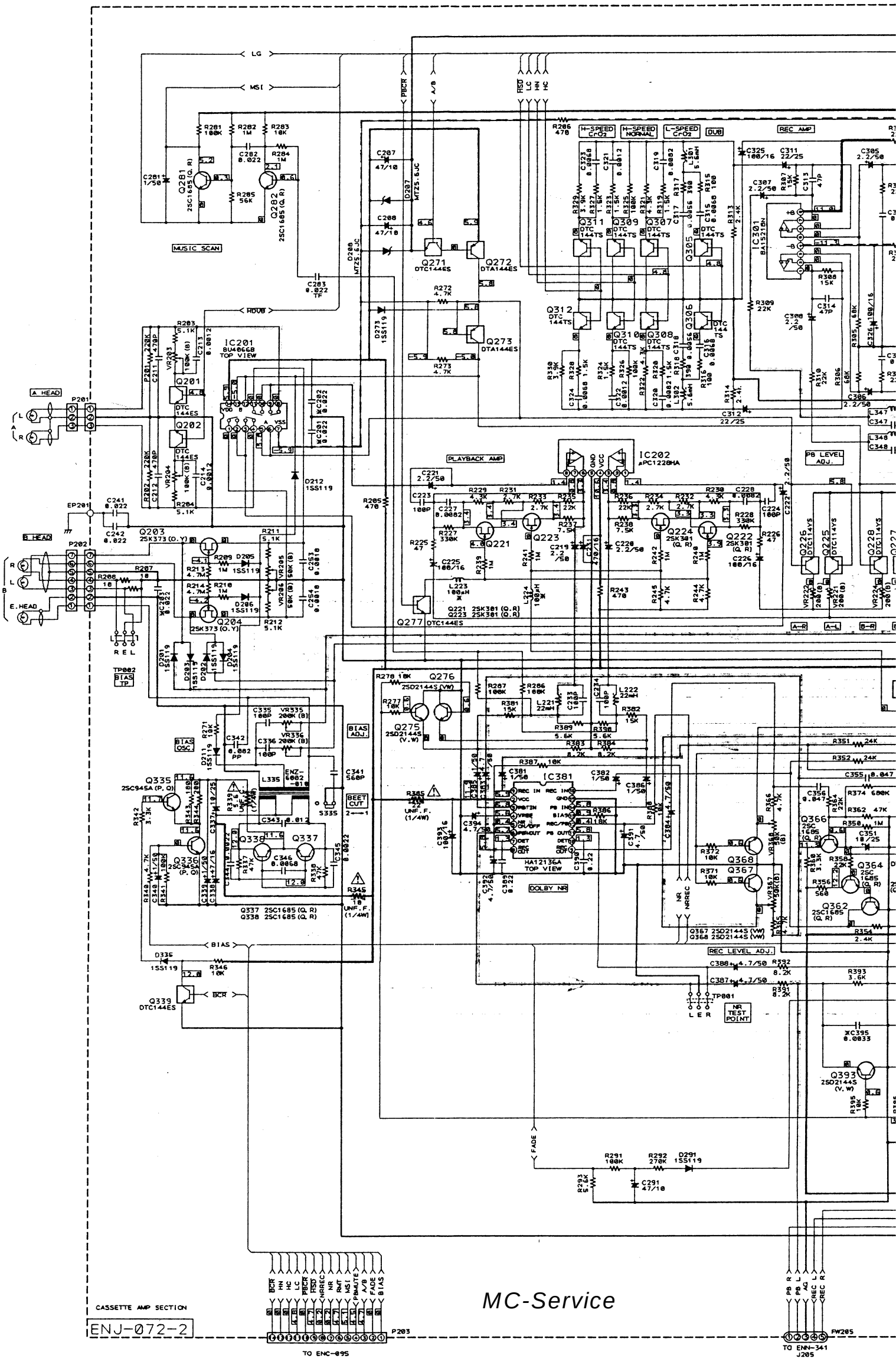
MC-Service

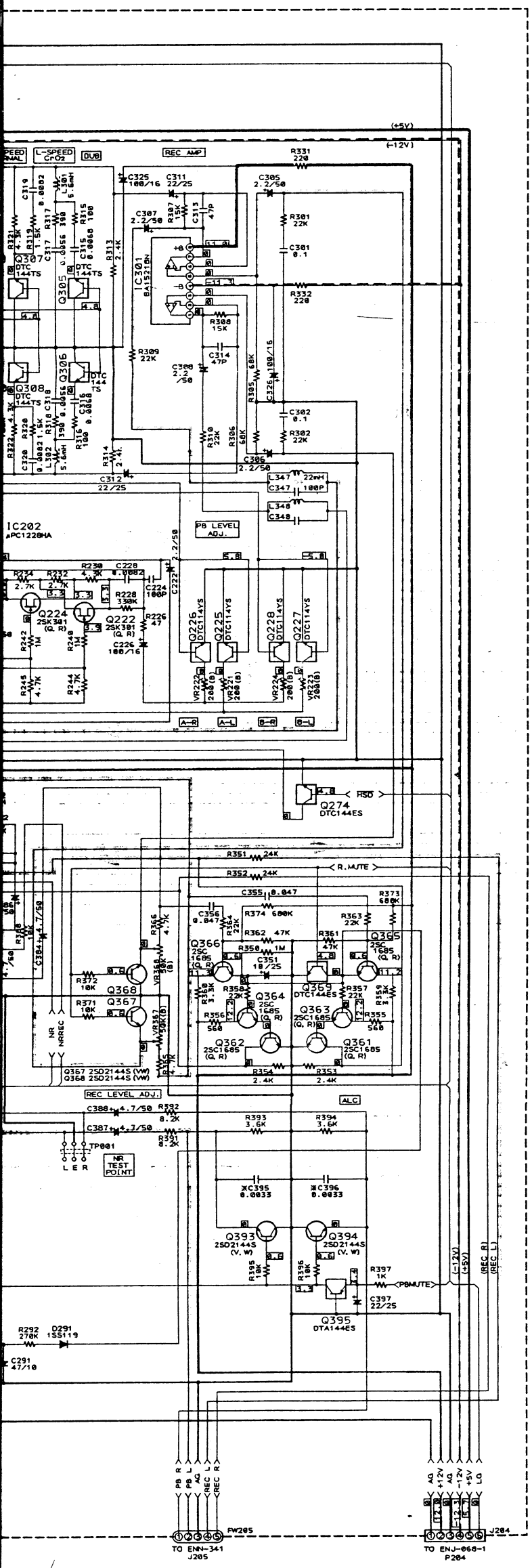
Notes:

1. ——— indicates +B power supply.
2. ----- indicates −B power supply.
3. indicates signal path.
4. When replacing the parts in the shaded are (▒▒▒) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

(No. 20373)

(4) Cassette Deck Section



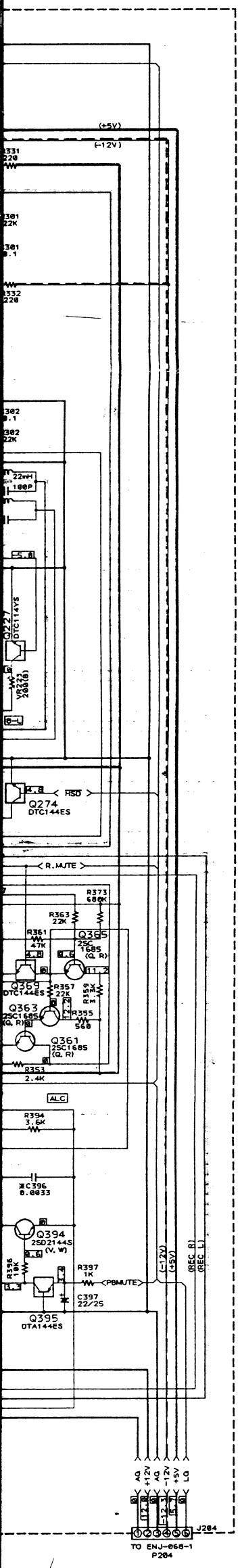


MC-Service

Notes:

1. ——— indicates +B power supply.
2. ----- indicates −B power supply.
3. indicates signal path.
4. When replacing the parts in the shaded are (▬) and with ⚠ , be sure to use the designated parts to ensure sa
5. This is the standard circuit diagram.
   The design and contents are subject to change without n

MC-Service

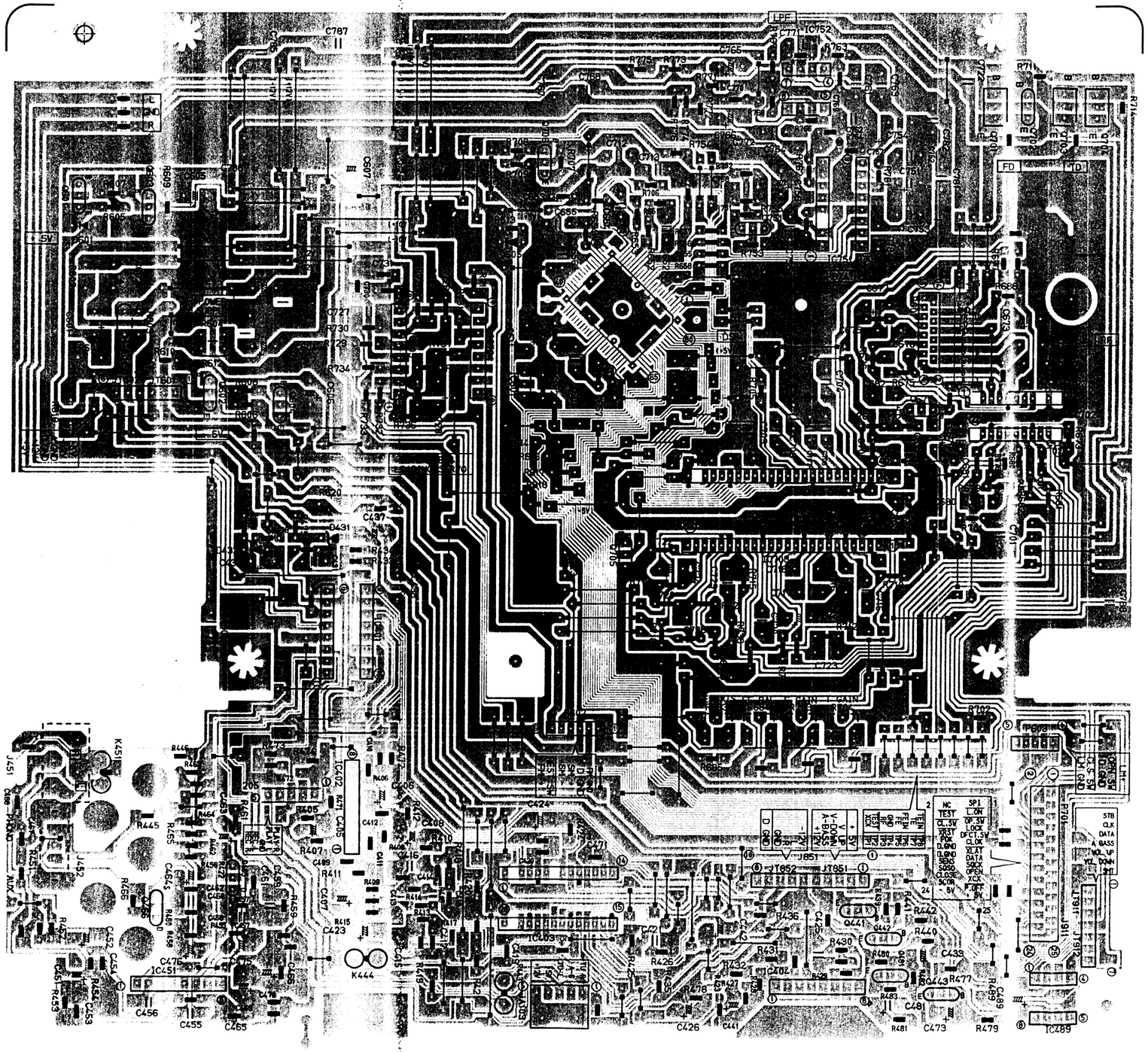


MC-Service

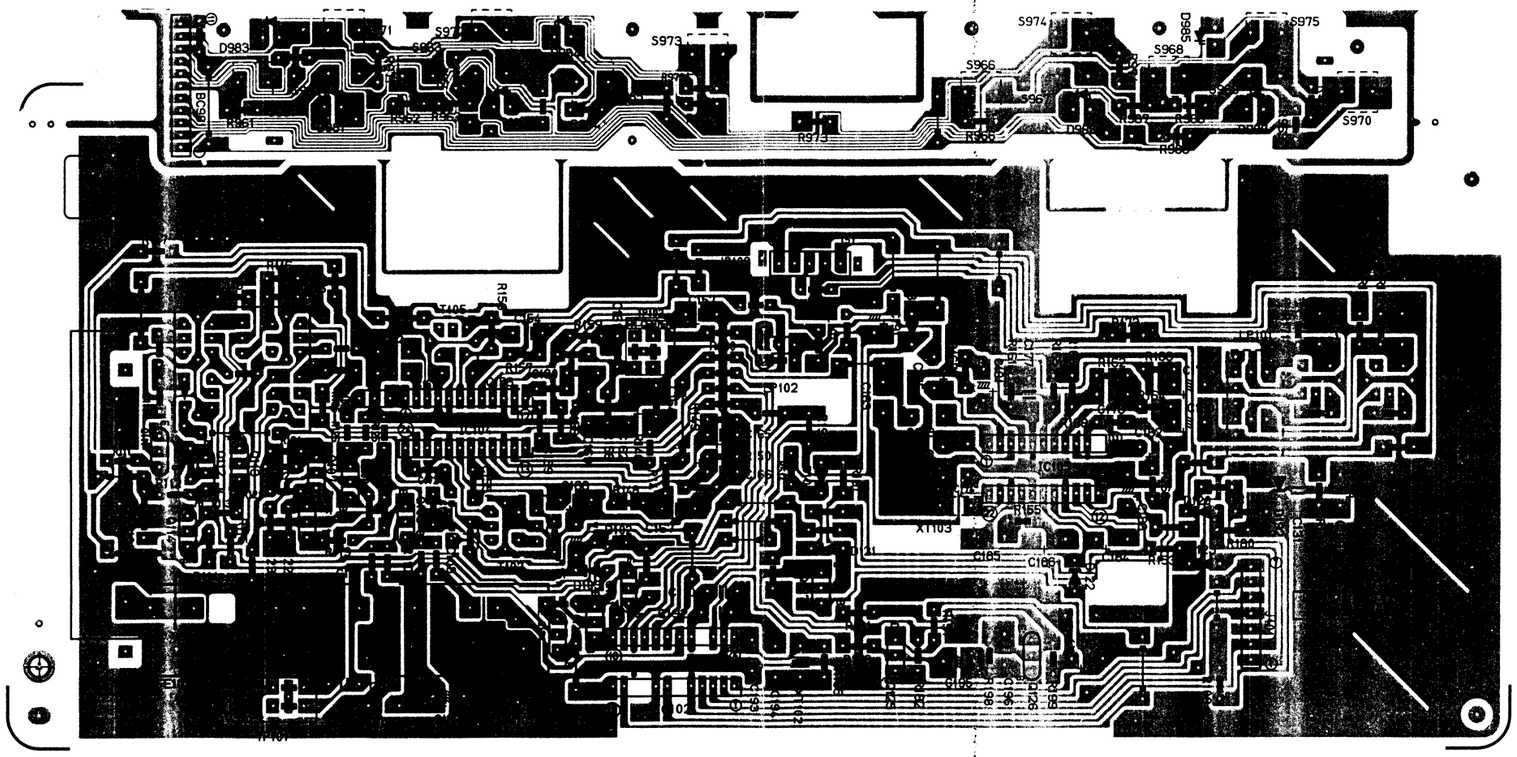
Notes:

1. ——— indicates +B power supply.
2. ----- indicates −B power supply.
3. indicates signal path.
4. When replacing the parts in the shaded are (▬) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

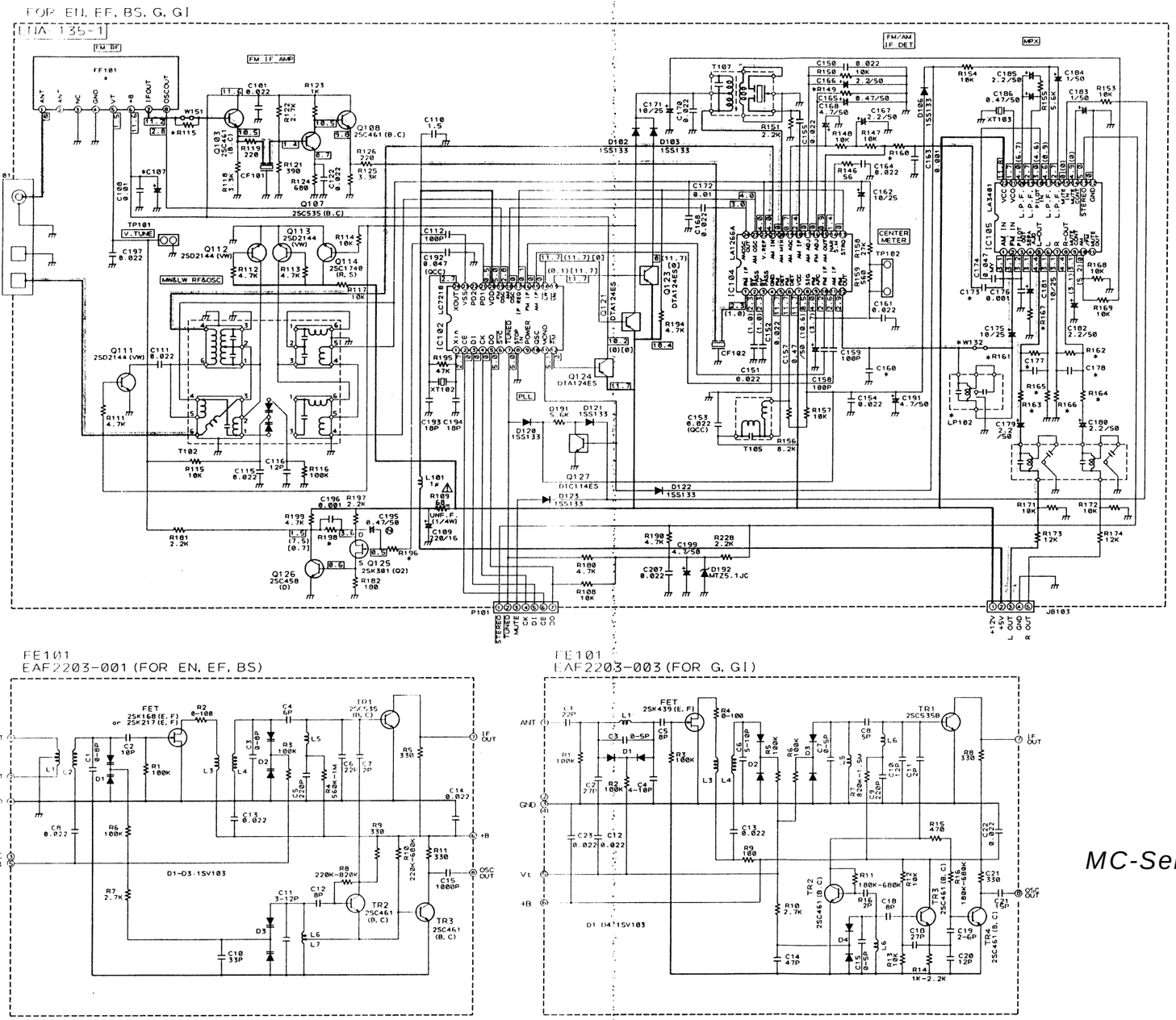
(3) CD & Source Selector PCB (ENN-341)



(4) Tuner PCB (ENA-135)



(5) Tuner Section (with LW)



* MARK

	EN, EF	G, GI	BS
R160	10K	10K	1K
R161, 162	100K	100K	68K
R163, 164	3.9K	3.9K	3.9K
R165, 166	270K	270K	270K
R167	47K	47K	47K
R196	2.2K	2.2K	2.2K
R198	8.2K	8.2K	8.2K
C160	100P	220P	100P
C173	0.022	0.022	0.022
C177, 178	560P	560P	820P
FE101	EAF2203-001	EAF2203-003	EAF2203-001
LP102	NONE	USED	NONE
W132	USED	NONE	USED
R149	27K	27K	27K
R115	NONE	100	NONE
W151	USED	NONE	USED
C107	NONE	22/16	NONE

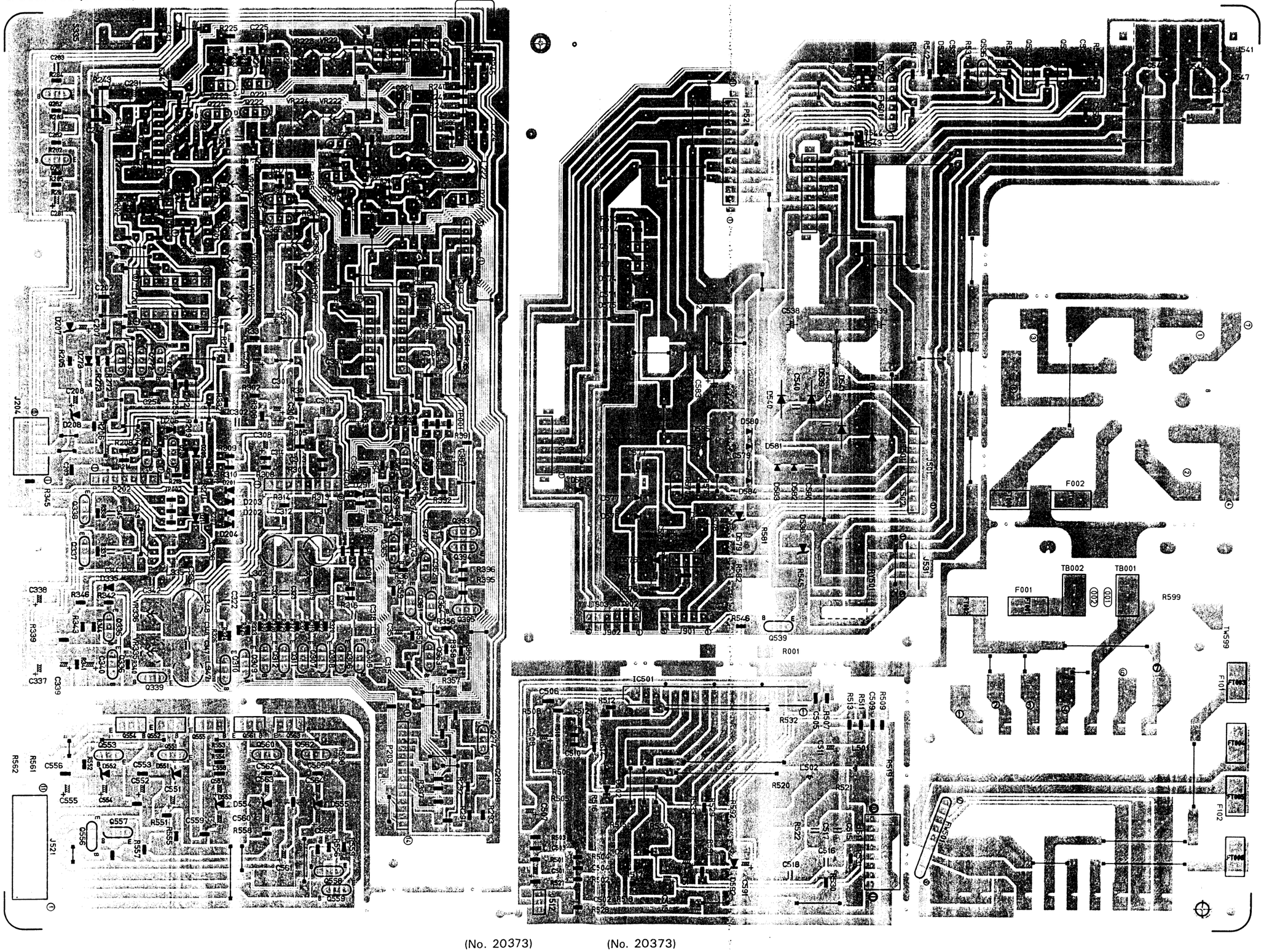
□ FM AUTO NO SIGNAL
( ) MW NO SIGNAL
[ ] LW NO SIGNAL

Notes:

1. —— indicates +B power supply.
2. ----- indicates −B power supply.
3. ▒▒▒▒ indicates signal path.

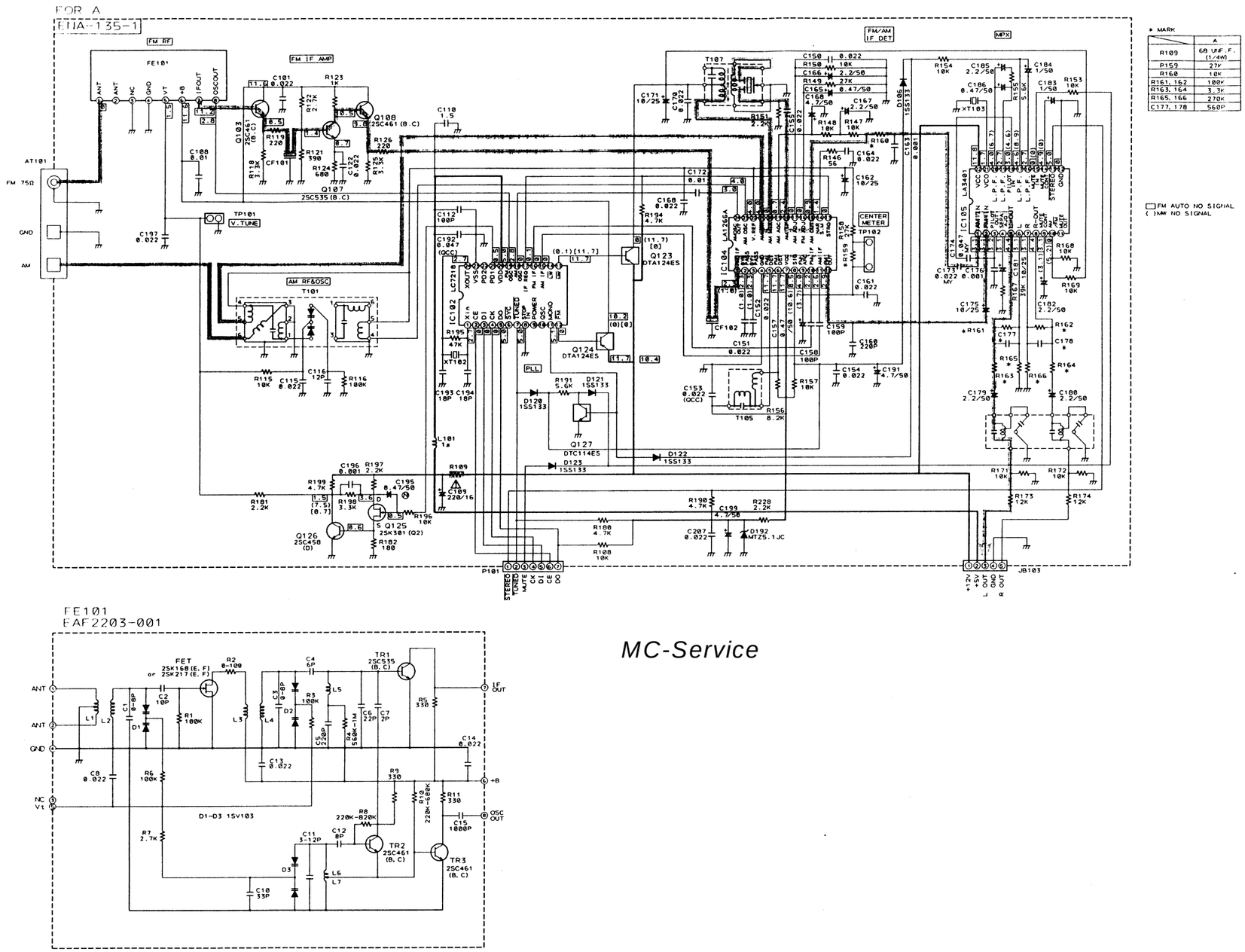
4. When replacing the parts in the shaded are (▒▒▒▒) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

(2) Power Supply & Deck PCB (ENJ-072)



(No. 20373) (No. 20373)

(6) Tuner Section (without LW)



MC-Service

Notes:

1. —— indicates +B power supply.
2. ----- indicates −B power supply.
3. ▭▭▭ indicates signal path.

4. When replacing the parts in the shaded are (▭▭▭) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

Printed Circuit Boards (1) Front & Deck Controller PCB (ENC-095)